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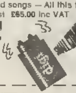
There is already a new sound sample set in preparation which will contain over 40 new samples including Syn Drums, Latin percussion, Hand Claps and many more for only £16.50! All purchasers of the Syntron Digidrum will receive details of the new sound samples as they become available plus a FREE subscription to the SYNDROMIC USERBASE which includes a membership card and a FREE quarterly newspaper on computer music and computer musicians written by leading music and computer journalists. Please fill out and return the coupon below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Gift-wrapped 64

Christmas comes but once a year, it makes us think of festive cheer — and computer companies of ringing cash registers (some wistfully). Commodore, like the rest, is already planning its Christmas battle tactics. Stung by last year's lack-lustre sales figures, it's announced 'bargain' deals that should make Sale of the Century look mean. Here's the low-down:

- **Christmas Compendium:** comprises 64, datasette, *Music Maker*, Activision's *Designer's Pencil*, Mosaic's *Adrian Mole* game and a copy of the book, *The Growing Pains of Adrian Mole*. The whole lot comes gift-wrapped (you'll need a large stocking) for just £199.

The idea is simple, according to Commodore UK marketing boss Chris Kaday "When people open their presents at Christmas they expect to have everything they need to use them straight away". That lot should keep you occupied at least until Boxing Day Grandstand

- **Peripherals Pack:** aimed at the existing user, you get two peripherals, the 1541 disk drive and the MPS 801 printer for just £199 99 — according to Commodore, "two for the price of one".
- **First-time Pack:** for the first-time user who wants nothing to do with tapes: you get a 64, a disk drive and two disk games (*Super Zaxxon* and *Exodus Ultima III*), all for £299 95.

Despite our announcement of the early appearance of the 128, astute observers will have noticed none in the shops. The reason seems to be the delay in producing the 1570 disk drive, a cheaper, single-sided version of the 1571.

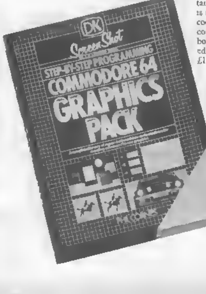
Sold separately, it should cost £199.95, a good deal less than the £269 (same price as the 128 itself) quoted for the 1571. But you'll be able to get the 128/1570 combo for a 'special offer' price of £449 95.

Moving on to the humbler 16 and Plus/4 machines, Commodore is quashing rumours that the aforementioned will soon be no longer "There'll be plenty of machines in the shops for Christmas", says Kaday. But if the present price-cutting on the 16 continues, we'll soon find it popping out of cornflake packets.

Meanwhile, it's rumoured that even bigger bargains are to be had with the Plus/4. Several High Street chains have signed up a deal to sell the machine plus datasette plus ten games for (wait for it) — £99.99. Someone's going to have a bumper Christmas.

Boxed Screen Shots

Dorling-Kindersley has packaged up its successful Screen-Shot programming series for the Commodore 64, into two boxed sets.



The Starter Pack contains Book One and Two in the series, together with a Typing Tutor program on cassette. That's strictly for beginners. The Graphics Pack, containing Books 3 and 4 (reviewed this issue), is more advanced and dabbles in machine-code. That also comes with a cassette that contains all the programs listed in the books, including the graphics and sprite editors — great idea. The Packs cost £15.95 each. More details on 01-240 5151.

Shorts

Cheap EPROM: Cambridge Microelectronics produces a bargain-basement EPROM programmer that's claimed to be easy to use even for the beginner. The Pram-64 device costs just £34.75. Also available is Cart-64 for mounting and reading your burned-in EPROMs (£5.95), and an Eraser (£18.95). The company also sells 8K EPROMs for £3.50 each — all prices exclude VAT. More details on 0223 314814.

Shorts

DIY Cartridge: Looks like DIY cartridges for the Commodore 64 are all the rage right now. Yet another system has appeared This one's called the *Epilog System* from Sircol Instruments. It's a complete EPROM programming and erasing package that comes complete with one 8K cartridge. That lot will cost you £144.95, and you can get additional 8K cartridges for £17.95. We'll be rounding up all the available products early next year. Meanwhile, more info on 01-644 0981.

Shorts

The Big news: is that Big Daddy has been signed up by Melbourne House to endorse their coming wrestling game — Rock and Wrestle. Big Daddy will be featured on the box and in the game itself, which is being written by Greig Barnett, author of the Exploding Fist.

Lounge Lizards

Fans of now-defunct TV series "V" will have witnessed the hacking of the Visitors' control computer during one of the programmes.

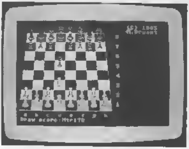
In that episode a teenage hacker, using a portable micro, changed the battle plan of the lizards' attacking force, stopping them from mounting an all-out offensive on the Resistance base No — it wasn't a Commodore

The bad news for lovers of the lizard-like aliens who disguise themselves as humans with plastic masks is that the series that has just ended may well be the last

A spokesperson for Thames Television told *CU*: "The American producers of 'V' have not yet decided whether or not to make another series Even if they do, a decision will have to be taken here whether to buy it or not And there are no plans at the moment to schedule another series of "V"."

But the scheming Diana and Lydia will return to the small screen with or without Thames thanks to a computer game based on the programme courtesy of Ocean Software Ocean's boss of software development, John Woods, promises more information on the V game next month. Watch this space.

Diana and Lydia don't look too pleased You wouldn't be either if someone had just hacked into your 64



Colossus goes 3-D

Fans of the Colossus chess program for the Commodore 64 will be pleased to hear that CDS has finally released the improved *Colossus 4 Chess* — at £9.94 on tape and £14.95 on disk. So what's so special about it?

The new version has two screen display options The conventional 2-dimensional board layout can be changed to a more realistic 3D perspective. Pieces can be moved using a joystick According to CDS, the program "has a perfect understanding of all the rules of chess, including underpromotions, the fifty move rule and all draws by repetition" It also claims to have beaten all the other leading 64 packages — but can it tear a strip off Karpov?

Now for the PROLOG

Not so long ago Commodore 64 owners were stuck with either Basic or machine-code to program with. But alternative languages are now mushrooming, the latest example being PROLOG, the new 5th generation language that's being used in 'artificial intelligence' and problem solving.

PROLOG stands for PROgramming in LOGic: it's a powerful language that claims to be easy to learn for people with no programming experience. It deals with 'knowledge' rather than 'data', you describe the problem to be solved by stating facts and rules about it. PROLOG then searches for possible solutions

The Commodore 64 version comes from Logic Programming Associates and is called *LPA micro-PROLOG*. At £80 (inc VAT) it doesn't come cheap, but as well as the disk and a very comprehensive manual, you get Tom Conlon's introductory book *Start Problem-Solving with Prolog* We'll be reviewing micro-PROLOG and more new languages in January. Meanwhile, more details on 01-871 2016.

◆ Shorts ◆

Micronet Corner: Make a note in your diary for the 29th October if you want to talk to MP William Powell (responsible for the software piracy bill) on Micronet's Celebrity Chatline. Meanwhile, the Jobsearch area seems to be going well, with the weekly paper *Computer News* now advertising its vacancies on-line. Finally, there's a new area on Micronet for 'artificial intelligence' boffins. It includes PROLOG learning, forum for news, views and information.

◆ Shorts ◆

16 characters: There's so little software around for the 16 that we feel it's our duty to tell all if new material appears. The latest arrival is a Character Editor program from Zion Systems. It costs £7.95 on tape, allows you to copy the character set from ROM to RAM, redefine any of the characters and obtain a data table for future use. F1 and F4 toggle between the normal and redefined sets The program is available mail-order from: Zion Systems, 24 Camp Road, Farnborough, Hants.

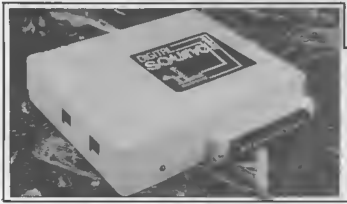
Shorts

Rabbit rerun: Remember Rabbit Software, the company that specialised on Commodore machines — and went bust? The name is being given a new lease of life as the budget label of Virgin games. All Rabbit titles will cost just £3.99. Already available for the 64 are *Doriath* (arcade adventure) and *Zyto* (climb 'n' collect). Will those get the competition on the hop?

Ultimate in Egypt

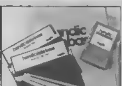
Before you've managed to plough your way through Blackwyche, the final instalment in the Arthur Pendragon saga, Ultimate announces its latest game offering, Imhotep.

Imhotep covers new ground for Ultimate: you're whisked away to ancient Egypt, where your wackily named hero must perform certain tasks set by the Gods As usual, the company is keeping tight-lipped on the details until the release date scheduled for mid-October — that means you probably won't get one until December Prices stay the same at £9 95 on cassette We're already getting genned up on hieroglyphics ready for the review. .



If sound effects like echo, looping, repeat or reverb are what you're after. Datel's new Digital Sound Sampler *for the 64 could be for you. At £49 99, the device plugs into the cartridge port Software comes on tape or disk and includes a full chromatic keyboard to play a complete musical piece from a single sampled sound Sounds* neat. *We'll be reviewing it soon More info on 0782 273815*

New Handic database



New from Handic Software, creator of the successful CalcResult spreadsheet, comes *Database 64*, a powerful cartridge bdsed program. But at £89 95 it may struggle to make an impact in this already crowded 64 database market

Its vital statistics go like this. max 3800 records per file, max 18 fields per record, 27 characters per field and 254 characters per record Although it looks easy to use, it seems to lack the sophistication of some cheaper programs. More details on 0344 778800

Vizawrite for 128

The C-128 version of Vizawrite, the well-respected wordprocessor for the 64 should now be available. It's called *Vizawrite Classic* and will cost £99 95 For the money, though, you get a lot of extra gbooies

There's a pull-down full-function calculator, text can be arranged and printed in up to eight newspaper-style columns, there's a spelling checker, proportional spacing, windowing capacity and a choice of three fonts for use with dot matrix printers (you can even customise your own). Also, several printer profiles can be created for sophisticated control of output. Vizo Software is on 0634 813780

Advanced Cash Trader

Quick-Count has produced an enhanced version of its *Cash Trader* book-keeping package for the 64 It was upgraded primarily for the Plus/4, which is now doomed to extinction. The new 64 version is split into three modules. transaction processing, VAT and accounts printing

Enhancements include the ability to ask how much space is left in the transactions file, and inclusion of full details for every transaction for every nominal ledger account The VAT section now gives the options of retailers' schemes A, B or F, scheme C or scheme D. More details on 01-202 5468

Fantastic Flyer

Why do business packages have such boring names? Impex Designs is changing all that with *Fantastic Flyer*, a new low-cost database package for the 64 The program is available on disk for just £12 95.

Specifications include the capacity for up to 1000 average-sized records, each record containing up to 50 fields, with up to 254 text characters per record Searches can be made by record number, indexed key field, or multiple criteria entered on a blank form (indexed or record number searches are quickest). There's also a mailmerge facility. Impex is on 01-900 0999.

FANTASTIC FILER

Write to us and win yourself a T-shirt (S,M,L). Letters to: Feedback, Commodore User, 30-32 Farringdon Lane, London EC1R 3AU.

Sweet 16

Dear Commodore User,
I would like to congratulate you on such an interesting and useful magazine. I am a C-16 owner and have found that Commodore User is the biggest support available. When I open Commodore User my spirits are raised to see reviews, type in games and so on. So please keep up the good work as you are really the only supporter of the C-16. Any C-16 owners who are interested please write to me, all letters replied.

Alan Rutherford,
7 Russell Place,
Bueby,
G76 8JN.

Thanks for the compliment. Bad news, though, from Commodore. They've just signed the 16's death warrant by announcing it will no longer be produced after Christmas. That goes for the Plus/4 too. But we'll still support the 16 if enough people want us to.

Joystick jury

Dear Commodore User,
You mentioned on the Feedback page for September that you would like to hear from readers, what they would like offered as prizes in competition. This family all agreed that new joysticks would be the sort of prize they would like to see offered. Hoping that as they are less expensive than new computers, disk drives or printers, that more than one would be on offer so as to give us more hope of winning We also wondered if a review of joysticks, trackerballs etc., would be possible, hopefully to advise which ones are suitable for which jobs eg., accuracy for drawing packages, speedy responses for shoot-up games and strength to withstand sports simulations.

Mrs. J. Drayson,
Bournemouth.

Winner takes all

Dear Commodore User,
Like so many of your readers, I entered your C-128 competition. Like so many of your readers, I didn't win.

But no hard feelings

Because there is something else I would like to win. Something so incredible it defies description. The Amiga!

For months now you've been teasing me, telling me how great it is, but it's about 1,000 quid beyond me!

So think how great it would be sales wise! The photo on the front cover — WIN THE MOST INCREDIBLE HOME COMPUTER EVER — or maybe even two or three! Surely anyone who normally buys one of your rivals (God help them) could not miss the chance. And there are some Vic owners about, who although happy with the Vic, would be happier software wise with a 64.

R. Hales,
Wisbech, Cambs.

Never mind CU competitions, we'd like to win an Amiga ourselves. To all you hopefuls out there, there's nothing doing until at least the Spring of next year.

Pascal Rascal

Dear Commodore User,
I was intrigued to read in your News section that Ian Sinclair's forthcoming book, on Oxford Pascal, finds this Pascal implementation so impressive.

Last year I bought the cassette version of this — advertised as in all respects the same as the disk version, only to find it wouldn't accept user-defined types, without which Pascal programming is a no-no. The company's engineer confirmed this on one of their cassettes — to his surprise, apparently, and suggested I got the disk version. That would have set me back another £40 and £200 for the drive. In disgust I let them get away without a complaint to the police under the Act, and put the cassette in a draw.

Presumably then Ian Sinclair's excitement was inspired by the disk version — I'll have to buy the book and see if he tried the humbler — and useless — cassette version: if not, save up the £240 to use his book.

Joebear Webb,
London NW2

Video nasties

Dear Commodore User,
Like many others, whenever people criticised games such as 'Raid Over Moscow' for being immoral, I dismissed it, thinking 'It's only a game!', but since reading Mike Pattenden's views on 'Beach-Head II' in September's Hotshots, I began to realise that the problem is more serious.

Since the true potential of graphics and sound of our more popular computers has been realised and with the release of the Amiga, scenes are becoming more life-like, until some day the victims of our shoot em ups will look and sound like real people dying, until we may no longer be able to tell the difference.

This will be worse than video 'nasties', as here, to do well in the game, WE are encouraged to kill the opposition. Surely this is not entertainment! I admit, almost half of my games contain shoot em up sections, but we must be careful not to transcribe this into real life. We may need a government department to censor computer games!

Also, if extra-terrestrials DO exist, do you think that, after observing us, they will want to make any encounter, close or otherwise, with a society which zaps computerized aliens in their spare time?

Darryl Webb,
County Antrim.

International replies

Dear Commodore User,
Your magazine seems to have worldwide interest! I recently placed an advertisement to SWAP or SELL my games collection in your Classified Ads section — I'm not giving them up, just collecting the best.

I had a number of replies — and I replied to everyone who sent an SAE. If anyone did write and didn't enclose an SAE I hope you'll let me thank them for their interest through your pages, only the cost of return postage would have been enormous.

Two of the replies were of great interest — one from Stefano Sabetini in Italy and the other from Vaughn Sandor in New Jersey, USA!

Andrew Clarke,
Atherstone,
Warwickshire.

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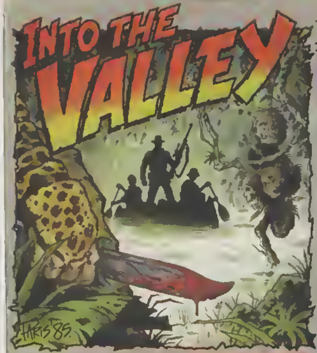


BY JOHN RANSLEY

Phew, what a month. My praise bag is looking pretty empty now that I've heaped it all on to this month's crop of adventures. What with Adventure International's new Robin of Sherwood, the new Adrian Mole game and Terrormolinos to review, it's getting really difficult to say anything nasty. Maybe next month. . .

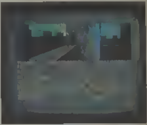
Sherwood greenery

When we exclusively previewed Adventure International's **Robin of Sherwood: The Touchstones of Rhiannon** in July, the same team's first home grown title, *Gremlins*, was already No 1 and looked to be a hard act to follow. And there was a question mark over whether even the expertise and experienced Brian Howarth and Mike Woodroffe could capture in a computer adventure the ethereal character of Richard Carpenter's scripts for the highly successful and innovative TV series on which the game is based

My verdict is that they have triumphed absolutely and, with the added talent of graphics wiz Teoman Irmak, have produced one of the most oustanding adventures of '85

Touchstones is the first in a suite of four Robin of Sherwood titles planned by AI, and in this your goal — as the Hooded Man of course — is to track down a number of magical stones and thus thwart the evil necromancer who has bewitched John Little, among others

But, your day doesn't begin too promisingly A tough start is a Brian Howarth hallmark, and no fewer than 12 (at the minimum) commands are needed to free you from the dungeon that is the first location After that, you'll have a merry time

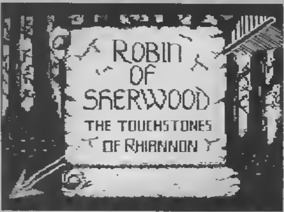


Viva Terrormolinos

A friend just back from holiday on a supposedly undiscovered (i.e by tourists) Greek island ordered kebab for her first dinner there and it was served with chips, baked beans and a bottle of OK Sauce. Maybe *the spiritual home of Zorba the Greek* will be the next target for the authors of **Terrormolinos** (Melbourne House, £7 95), who, not content with lampooning the Habitat high lifers of NW3 in their debut title *Hampstead*, now go straight for the jugular of the

● ADVENTURE NEWS ● ADVENTURE NEWS ● ADVENTURE NEWS ● ADV

- **Bug-Byte** may live again, much to the joy of thousands who played *Twin Kingdom Valley*, rivalled in popularity only by *The Hobbit* when it was released in 1983. Argus Press Software's Peter Holme tells me that he's hopeful of reviving the Bug-Byte label, which has been dormant since the company's crash earlier this year. So there may be not only enhanced versions of TKV for the C128 and Amiga to come, but the sequel which Trevor Hall was coding when Bug-Byte bit the dust may see the light after all.
- **Tynesoft** have persuaded the indefatigable Brian Howarth to burn even more midnight oil and produce *Lone Survivor* in time for a Christmas launch. Possibly the world's first adventure for manic depressives, it takes as its scenario the day-to-day existence of the only survivor of a nuclear holocaust.
- **Infocom** undoubtedly produce the world's best pure text adventures — just a pity that they're also beyond the pocket of most this side of the pond — with the American cut of *Hitchhiker's Guide to the Galaxy*, for example, costing around £40. But whispers are reaching the Valley that Joel Berez and his buddies at the company's Boston HQ are even now swapping meaningful telexes with British software houses, with a view to manufacturing and marketing in this country the newest Infocom titles such as *Wishbringer* and *Suspect* at around half their current import prices or less
- **Global Software** could set the pace for enhanced adventures that make the most of the C128's fatter memory, for while most labels appear content to flash existing titles as being C128 compatible, Global chief Mike Daniels tells me that their next offering, *Old Friends*, will be available also in a special C128 version featuring a bumper scrolling map that the 64 can't cope with Old Friends has a theme of contemporary heroes and villains and is set on the South Bank
- **Mosaic** mix methodology, mayhem and Whitehall mandarins in *Yes Minister*, an adventure-cum-strategy based on the hit TV series in which, adopting the persona of the Minister's private secretary, you have to steer a course between James Hacker and Sir Humphrey Appleby It's due out after Christmas at £9.95 or £12.95 on disk.



evading the castle guards and other perils — but the prize for making the right responses is to find yourself in Maid Marion's bedchamber.

I made a request to EXAMINE MARION and was informed YOU SEE NOTHING SPECIAL, which I thought was a bit hard on the old girl. Still, it was her window that really interested me anyway, because it provides the means of escape in to Sherwood Forest itself.

This is where Touchstones really started to score points with me, because now I was able to move around fairly freely; in the space of just a couple of dozen moves. I was to meet Herne the Hunter (who explained my objective), some rather acquisitive Knights Templar, and Gregory the tax collector (remember how it's okay to rob the rich?).

Soon after entering a small village I found the first touchstone; early and welcome encouragement to persevere. Trudging through the forest again, I came to a waterfall. With its animated water cascading over the rocks, this must rate as one of the prettiest scenes ever presented in a graphic adventure. Entering GO WATERFALL produces an equally impressive reward

I understand that Touchstones' 140 illustrated locations include several more similarly animated scenes. If they are anywhere near as good as those first couple of examples, it will be a pleasure to discover them all when I have time to explore this adventure more fully

That's not to say that Touchstones rests just on its graphic laurels, because the authors have incorporated a parser that accepts both proper sentences and multiple commands — a refinement that's still too often the exception rather than the rule, and it's one that saves so much tedious, repetitive input. You can also get drunk with power instructing your merry men to follow you or await your beckoning

Touchstones of Rhiannon can be unreservedly recommended for adventure gamers at all levels of ability. That tricky dungeon apart, beginners can move around fairly nimbly, visit plenty of locations and meet many characters without having to solve loads of difficult puzzles — while more experienced players will be able to fully exploit the game's ability to accept sophisticated input. And all will enjoy the real treat of Touchstone's splendid graphics. It is an absolute must.

---

package tour in a new-style graphic adventure that mercilessly depicts the awfulness of the tourist-trapped Costa Brava and knotted-handkerchief doltishness of the British abroad

In *Terrormolinos*, your goal is not just to experience but survive a fortnight of cacophonous castanets, homicidal bulls and terminal paddling. For proof of your resilience (and there's Beryl, the wife, and your kids Doreen and Ken to think about, too), you have to compile an album of ten holiday snaps taken at different locations. Each time you're successful, your picture — deliberately resembling a saucy McGill seaside postcard — 'develops' on screen

At first I thought that these would be the only graphics in the game, but MH designer Mike Robinson and programmers Roger Taylor and James Byrne have managed to squeeze in quite a few more. Most give visual confirmation of the disasters which can befall you and bring a game to a swift conclusion — such as when you collapse with sunstroke or get arrested for vagrancy

Once you arrive in Terrormolinos, you can immediately start searching for your hotel, exploring the dreadfulness of the resort, and deciding on some excursions. All these actions can take you in the right direction for the photos you need. As *Terrormolinos* was initially developed by Peter Jones and Trevor Lever on The Quill, input is restricted to single-word commands and verb/noun pairs, though you'll find that a few Spanish phrases will also come in useful — and these are anyway revealed in the fully descriptive inlay.

But to fuss about the absence of a perfect parser is to miss the point. Terrormolinos is really a sitcom parcelled up as an adventure. Like Adrian Mole, it's a new and frequently amusing variation on a theme. Maybe Terrormolinos does rely a little too heavily on what is really just one expanded joke to make it work, but Lever and Jones manage to keep it fresh. It wouldn't hurt to have more like them writing 'alternative' computer games. After all, and strange though it may seem, not all of us actually want to be Rambo.

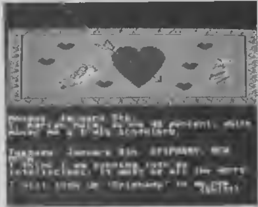
● CHARTS ●

	1	(1)	**Red Moon** — C64/128 (Level 9, GrA, £6.95)
NEW	2	(–)	**Rats** — C64/128 (Hodder & Stoughton, GrA, £7.95)
	3	(3)	**The Fourth Protocol** — C64/128 (Hutchinson, GrA, £12.95/£15.95 disk)
	4	(8)	**Terrormolinos** — C64/128 (Melbourne House, GrA, £7.95)
	5	(2)	**Castle Blackstar** — C64/128 (CDS, TA, £2.99)
NEW	8	(–)	**Mordon's Quest** — C64/128 (Melbourne House, TA, £5.95)
	7	(5)	**Beatle Quest** — C64/128 (Number 9 Software, £9.95/£11.95 disk)
	8	(6)	**Subsunk** — C64/128 (Firebird, TA, £2.99)
	9	(6)	**Gremlins** — C64/128 (Adventure International, GrA, £9.95)
	10	(7)	**The Jewels of Babylon** — C64/128 (Interceptor, GrA, £9.95/£11.95 disk)

It's no surprise that Level 9's top-quality, mid priced *Red Moon* has managed to hold onto the top spot for the second month running, but now it has a new challenger in James Herbert's fearsome Ratty fiends in fur who may well nibble their way into the top slot by Christmas.

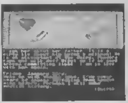
The new Costa Brava spoof from Melbourne House (by the duo who brought you *Hampstead*) moves a few more places up the ladder of success, and Jon Jones-Steele's impressive sequel to Classic Adventure makes its first chart appearance this month. It's a case of switch and swap for all the other titles, but *Robin of Sherwood* and *Adrian Mole* are likely to join forces in ringing a few changes in next month's all-important Christmas ratings. Be sure to catch them here in *Commodore User*.

Mole loves Pandora



Sue Townsend's saga of post-puberty intellectual Adrian Mole has, it seems, already captured the imagination of every other Third Former in the country — and with Master Mole's confessions of his passion for the unattainable Pandora, his dead embarrassing mum and his fascist headmaster now a hit TV series, **The Secret Diary of Adrian Mole aged 13¾ — The Computer Game** can hardly fail to be a hit. Yet it deserves to be one simply on its own merits.

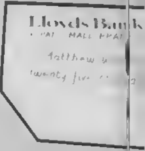
Given the success of strongly graphic titles this year, it couldn't have been easy for Mosaic to decide on an unconventional approach in a (very successful) effort to remain true to Sue Townsend's original. The result is a game that does have plenty of graphics to lighten its looks, but which also packs in more prose, probably, than anything short of an Infocom effort. The Austins have achieved this by not only utilising some nifty text compression techniques but also presenting the complete game in four different parts which Load separately.



Thus the player is able to scroll through the pages of Adrian's diary for a year and choose one of three courses of action at numerous points of encounter with the characters and situations familiar from *Secret Diary* and *Growing Pains*. Incidentally, many of these scenes have been changed slightly so although familiarity with the books may help, you can expect some novel twists.

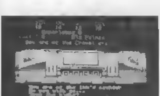
Progress through the quartet of games is simply a matter of touching key 1, 2 or 3 on the keyboard. Keying 4 brings up a special command and help menu that allows you to call up more information about a particular character, Save or Load a particular effort, and summon assistance. Your overall objective is to make Adrian as unpopular as you can, and the screen frequently reminds you of your current score — the lower the better!

One of the most attractive features of Secret Diary is that it offers even the youngest player — from about 8 upwards — immediate entertainment, involvement and enjoyment. There are no agonising puzzles to solve, and the command system is so simple that there's no problem about mistakes in the spelling or syntax of inputs jamming up the works. Older players will love the playground politics, the evocative interludes between Adrian and his schooldesk sex symbol, and the richness of the characters and dialogue. Ten out of ten for Mosaic and a merit mark for Level 9.



● ADVENTURE NEWS ● ADVENTURE NEWS ● ADVENTURE NEWS ● ADV

● **Adventure International** have at last released the first software version of the Fighting Fantasy bestsellers by Steve Jackson and Ian Livingstone. *Seas of Blood*, based on the authors' original Puffin Interactive paperback, offers full-colour graphics at each of its 280 locations and combines combat interludes with conventional text inputs and response. Price is £9.95 or £12.95 on disk. Next title released will be *Appointment with F.E.A.R*



● **Intercaptor** plan to release a 64/228 implementation of *Warlord* in the New Year. A 100-location puzzler written by David Banner (you should see his shirt bill), it sports some of the nicest graphics yet to come out of Richard Paul Jones' Tadley talent shop. Warlord depicts a struggle between the Roman legions, Celtic tribes and the gods in 5th century Britain.

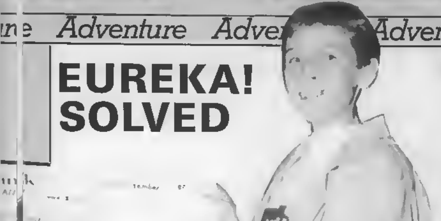
● With the success of movie arcade/adventure spin-offs *Rocky Horror*, *A View to a Kill* and *Gremlins*, British software publishers who were beaten to the post by Ocean for the rights to *The Never Ending Story* will now try to bargain for rights to *Life Force*. Adapted from Colin Wilson's bestselling novel The Space Vampires and reportedly the most lavish SF film ever made, it all begins with an alien spaceship 150 miles long approaching earth. .

● **All American Adventures** are heavily committed to a programme of imported titles well into 1986. US Gold's thinking man's subsidiary will, (spokesperson Louise Jones assures me) chase the strategy/arcader *Exodus: Ultima II* and newly-released *Wizard and the Princess* and *Ulysses and the Golden Fleece*, *Mission Asteroid* and *Lucifer's Realm*. More in the mould of traditional graphic/text titles are *Masquerade*, *Wyld*, *Asylum* and the highly innovative *Alternate Reality* — which was blowing the socks off previewers at this year's Chicago computer show.

● **Microdeal** keep faith with C16 and Plus/4 text adventurers by adding to text titles Williamsburg and Mansion Adventure with Castle Dracula, Jerusalem and Ultimate, also at £3.99 each.

● **Telarium's** new releases include a Perry Mason whodunnit (just up your Della Street?), and *Nine Princes in Amber* by award-winning American SF author Roger Zelazny, in which you must collaborate with but outwit eight treacherous brothers and four scheming sisters. The graphics too are out of this world. Full reviews soon.

EUREKA! SOLVED



The £25,000 prize-winner tells all

Mathew Woodley, the 15-year-old who finally made the right connections in the Eureka game tells John Ransley how he scooped the world's biggest adventure prize.

The very first adventure Mathew ever tried was *The Hobbit*, but he admits that he was never really able to get into it. "I'm afraid I found it boring. I played other adventures on and off, just to see how far I could get in them, but Eureka! was really the first to have a lot of atmosphere."

Map-making was the first weapon in Mathew's armoury. "I immediately started making maps — but I didn't think when I began the game that I'd have a chance of being the first to solve it and winning the money. I just played it as a pastime."

Mathew revealed that he didn't take the five sections of EUREKA! in the natural chronological order in which they're presented on the tape but instead tackled (and completed!) them in a strange order.

● **Ancient Rome** came first. "That part gets difficult when you're not sure what ingredients you need for the potion, but otherwise nothing stands out in my memory as being especially hard". He adds with encouraging modesty, "It was all hard!".

Knowing that some players regretted having neglected their schooldays Latin, I asked Mathew whether this aspect had foxed him. "You're okay once you're on the galley, because there you learn to speak Latin fluently," he explained. "And the Latin that does crop up at the beginning isn't too difficult anyway". If you say so, Mathew

● **Colditz** was the next section to come under Mathew's scrutiny, mainly because of his interest in the Second World War and the exploits of the Tommies who walked out under the noses of Jerry in suits fashioned out of parachutes, and all that. "This part was just as difficult as Ancient Rome, but sometimes I got caught out over really silly things. For example, after you've escaped from Colditz, you next have to FREE BRIGITTE or SAVE BRIGETTE — but I was really confused by that and at first I just couldn't find the right words. In the end my brother Mark worked that bit out for me!"

● **Prehistoric Britain** was perhaps Mathew's least favourite part of EUREKA! It didn't take him very long to complete it — and perhaps that's because it was originally intended to be the first part of the adventure that players should tackle, and was meant to be a slightly easier level than the other sections. "Also, by now I was beginning to get used to the words and commands the program would accept."

"Once I'd come across the dinosaur who runs around shouting, I loaded the Modern Caribbean section and was able to answer the questions it asks about the dinosaur. But then I found that I couldn't complete it because one of the questions is about King Arthur's treacherous nephew, which was revealed in the Arthurian game. So instead I looked up the answer in a book."

● **Modern Caribbean:** Mathew then spent some time sunning himself in the Modern Caribbean, where he found it useful tossing a carcase to the sharks and adding a metal strip to his inventory. A brightly-patterned Hawaiian shirt also served as a useful disguise. "One of the worst problems here is trying to get off the conveyor belt before you get caught in the crusher. If you are killed, it means starting all over again".

Arcade interludes

One feature of Eureka! which I know irritated and continues to irritate many adventurers used to conventional gameplay is the arcade game interludes — but according to Mathew, no one need really worry about mastering them. "I play arcade games more often than adventures," says Mathew, "but I didn't bother with the ones in Eureka! at all."

"I think they're really a waste of time. They don't affect your progress that much — they just add a certain amount of vigour, but you can do that by eating certain things anyway. It's quite a good idea to have arcade games within an adventure — but they need to be more interesting than the ones in EUREKA!" In any event, Mathew had worked his way through all five adventures by Easter, and now began the work of using the information he'd gained to find the ultimate solution.

It took another five months of scrutiny of the EUREKA! booklet, deduction and probably no end of lateral thinking before Mathew finally stumbled on the magic telephone number.

It's for you-hoo

"I called the number twice," Mathew explains. "It was an answerphone and I was instructed to leave my name, address and phone number — and a message to explain why I was calling. But each time the tone sounded for me to speak, I put the phone down! I just wasn't sure that I was right, because I expected the answerphone to say something about Eureka! So I left it and phoned again the next day. This time I left a message and then Domark phoned my mum to say that I'd won the money".

Right now, Mathew's so busy swotting for his O-Levels, and collaborating with Eureka! author Ian Livingstone on a book of maps and solutions to be published at Christmas, that he hasn't yet given much thought to ways of spending his prize money.

But, loyal to the micro that made it all possible, he intends to treat himself to a C128 — and admits to being tempted to going the whole hog and ordering an Amiga. "It's a tremendous machine but it's quite pricey", comments Mathew — he should worry.

• COMPETITION •

MOSAIC's marvellous Adrian Mole game is sure to be one of this year's favourite adventures among brainy hypochondriacs — and there's no easier way of getting your own copy than by entering this month's Valley competition.

Mosaic get full marks for donating no fewer than TEN copies of their newest hit — and these will go to the senders of the first correct entries picked from our postbag. Incidentally, we mix them all up when the time comes, so yours doesn't have to be the first correct entry received. If you have a 64 (or a C128, lucky thing you), here's what to do for a chance of a prize.

Win the Adrian Mole game

Pandora, the object of poor Adrian's unrequited love, and sometime subject of his naff poetry, prefers to be called by another name. Is it

A. Boz
B. Princess
C. Box

When you've made your choice, tick the appropriate letter on the form below, jot in the name of your three current favourite adventures (we find these votes very helpful in compiling our monthly chart) and complete the form with your name and address in block capitals.

If you'd prefer not to chop up your copy of *User*, simply put this information on a postcard instead.

Pandora prefers to be known by the name shown against letter

A B C *(please tick only one)*

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1 ....

2 ....

3 ....

Name ....

Address ....

....

....

Send your entry to MOLE COMPETITION, Commodore User, Priory Court, 30-32 Farringdon Lane, London EC1R 3AU

WINNERS of our Classic Adventure competition in the September issue were Helen Brown of Glasgow, Richard Walker of Dudley in West Midlands, and Daniel Rochelle from Colwyn Bay. Congratulations to them all, for correctly stating that a wizard who professes to be able to turn base metal into gold is called an *alchemist*.

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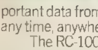

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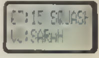

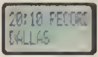

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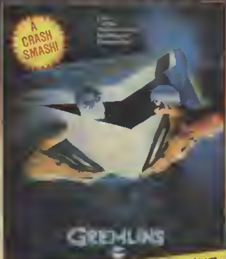
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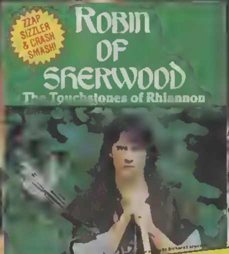
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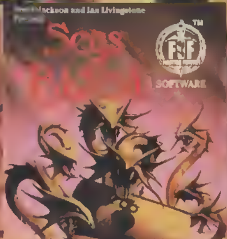
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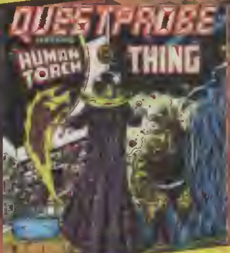
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COMMODORE 64 CHART

Chart Chat

Not content with putting **Barry McGuigan** on the deck in last month's *Screen Scene*, **Frank Bruno**'s given all the 64 chart contenders the KO treatment — poor Barry gets a few jabs in at number five. But in the General Chart, a few nasty chops from Melbourne's **Exploding Fist** stops the Eurochamp taking the General title. Other main movers include MH's **Fighting Warrior**, a Fist-clone straight in at number four (ouch).

NEW	1	Frank Bruno's Boxing	Elite
↓	2	Summer Games II	Epyx/US Gold
↑	3	Sky Fox	Ariolasoft
↓	4	Way of the Exploding Fist	Melbourne House
NEW	5	Barry McGuigan's Boxing	Activision
NEW	6	Karateka	Ariolasoft
↓	7	Beach-Head II	Access/US Gold
NEW	8	Blackwyche	Ultimate
NEW	9	Now Games	Virgin
NEW	10	Wizardry	The Edge
↓	11	Frankie goes to Hollywood	Ocean
↓	12	Action Biker	Mastertronic
↓	13	Elite	Firebird
↓	14	Kick Start	Mastertronic
↑	15	Pit-Stop II	Epyx/US Gold
↓	16	Finders Keepers	Mastertronic
NEW	17	Paradroid	Hewson Consultants
NEW	18	BMX Racers	Mastertronic
↓	19	Hyper Sports	Ocean
NEW	20	Terrormolinos	Melbourne House

GENERAL CHART

—	1	Way of the Exploding Fist	Melbourne House
↑	2	Frank Bruno's Boxing	Elite
NEW	3	Daley Thompson's Super Test	Ocean
NEW	4	Fighting Warrior	Melbourne House
↑	5	Now Games	Virgin
↓	6	Summer Games II	Epyx/US Gold
↑	7	Action Biker	Mastertronic
—	8	Sky Fox	Ariolasoft
NEW	9	Fairlight	The Edge
↓	10	Beach-Head II	Access/US Gold
NEW	11	Karateka	Ariolasoft
NEW	12	Bored of the Rings	Supersoft
NEW	13	Barry McGuigan Boxing	Activision
↓	14	Finders Keepers	Mastertronic
↓	15	Frankie goes to Hollywood	Ocean
↓	16	Hyper Sports	Ocean
↓	17	Formula-One Simulator	Mastertronic
↑	18	BMX Racers	Mastertronic
↓	19	Beach-Head I	Access/US Gold
↑	20	Graham Gooch Test Cricket	Audiogenic

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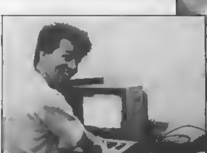
THE FORCE IN DISTRIBUTION

G FORCE: SCREEN SCENE'S MEAN TEAM



Left: Chris Anderson. Bottom left. Ken McMahon. Bottom right· Mike Pettenden

During the close season, *Commodore User* has not been idle. A few transfer deals have taken place. In common with Manchester United we've imported the best talent around to help you, the reader, decide what is worth spending money on. The G Force are here. Prepare yourself for the best games review section that any magazine can offer. That's no idle boast. We don't just claim to be the best. We can prove it.

THE BIG CHIEF

Chris Anderson is a name that will be known to many of you. He is the master gamer who used to edit *Personal Computer Games*. Remember that great mag? More recently he was the brains behind *Zepp 64*. Chris has now left Zapp to set up his own Amstrad Magazine — *Amstrad Action*. And a really great games magazine it is too.

But the really good news for 64 gamers is that Chris still has his trusty old 64 and he will be using it every month to give you his expert opinion on the latest hot games. To buy or not to buy, that is the question, and CU's G Force will not be dodging it either — just to stay in favour with software companies.

Chris is going to be the boss of the G Force — making sure they keep to the straight and narrow and making sure they remain the toughest bunch of reviewers in the business. If the G Force say a game is OK then you know it means something. And if they say it ain't — it ain't.

NEW SCORING SYSTEM

Chris has already acted to make some improvements to Screen Scene. "You've gotta change that marks system", was his first demand — and we have. At the back of each review you will find our new At A Glance panel. This awards stars out of five for **graphics, sound, toughness, staying power,** and **value.**

It's pretty obvious what we mean by graphics, sound and value but toughness and staying power need a word of explanation.

Good games need to be challenging. It doesn't matter what sort of game it is — a text only adventure or an all singing dancing arcade adventure — if it doesn't stretch you there is little incentive to keep playing.

Staying power means how long is the novelty going to last. Games that have staying power are the ones that you keep going back to — even if you have already played your way through to the final screen, and even if your score is in zillions. There should be something there that still keeps you coming back for more.

MEET THE G FORCE

So that's how we review games. Now let me introduce you to the rest of the G Force.

John — loony Dungeons and Dragons fanatic — Sutherland is our computer war games expert. Naff mags let arcaders loose out on war games. The G Force knows you can't do that. That's why we brought in John.

As Deputy Editor of war games magazine — *White Dwarf* — he made it his business to check out all the latest computer war games. *Battle for Midway*, and *Decision in the Desert* John has played them all and beaten most of them. He will be bringing you his opinions on the latest releases every month.

Mike 'Hot Shots' Pettenden is a name that will be familiar to CU readers. Our resident gossip columnist is a man who doesn't take no for an answer. He has been known to travel the length and breadth of the land (first class) to make sure you get the reviews you want when you want them — i.e. not six months after the game goes on sale. Games-wise he is into sports simulations and is an expert on *Summer Games*, boxing games, and Melbourne's *Fist*.

Peter Jones is the posh one. Went to Oxford, buys classical records, and lives in Richmond, Surrey. But don't let that smug Yuppie face fool you. When this guy lets his hair down he likes to do it with a Commodore 64. A good fast shoot 'em up for starters, and a really tough arcade adventure for main course. "Preferably one of Ultimate's". Wouldn't you just know it? Nothing but the best for this guy.

Ken McMahon is possibly the toughest member (*certainly the least popular — M.P.*) of the G Force. Software houses have been known to plead with the editor not to let the dreaded KM loose on their software.

But although he pulls no punches where dodgy software is concerned he is equally lavish with the praise when he likes something — arguing for the game to be made Screen Star.

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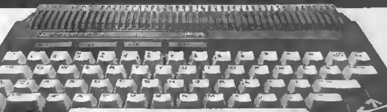

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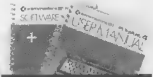

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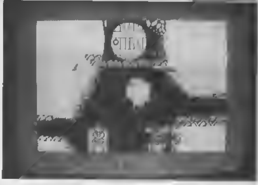
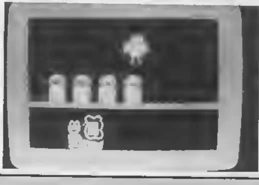
Orm and Cheep
The Birthday Party
Commodore 64
Macmillan
Price: £3.95/cass

Are you sitting comfortably? Hard luck, here it comes anyway. Kiddy software from book publishers Macmillan, in the form of TV favourites Orm and Cheep. Haven't heard of them? Well you're obviously watching the wrong programs.

Orm is a chummy faced little worm, Cheep, his feathered friend. The odd couple you might say. Anyway, it's Orm's birthday and he's invited all his mates around for a real slap-up do. First, though, he has to bake a cake, but, no ingredients. Luckily, good old Cheep shows up with the shopping, but he doesn't know which of Orm's jars to put the various things in.

Orm shows him by slithering alongside each of the jars and indicating what it should contain by means of a picture. He then tells Cheep to put, say, the sugar in the right jar. This is where junior gets to work the old grey matter. Cheep hovers over each jar for a couple of seconds. When he gets to the right one kiddo belts the keyboard — any key will do — and providing they've got it right the sugar drops in.





When all the jars have been correctly identified it's party time and Cheep has to go and round up the guests — snail, mouse, hedgehog and mole. Cheep makes his way around town with the help of signposts. Each arm of the signpost turns red for a few seconds and when it's pointing in the direction the urchin requires, wallop, as long as they hit the keyboard that's all that matters. When all the guests have been tracked down it's back to Orm's for more fun and games.

The best thing about Orm is that the only action required is to press any key at the right moment, yet it is interesting and good fun. The reason lies in the good storyline and simple, but effective, graphics. Whilst I can't say I enjoyed it personally, Orm will undoubtedly appeal to kids in the under six age group.

Ken McMahon

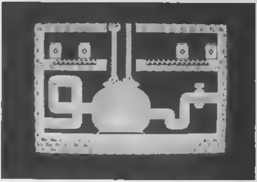
Graphics	★★★
Sound	★★
Toughness	N/A
Staying Power	N/A
Value	★★★★

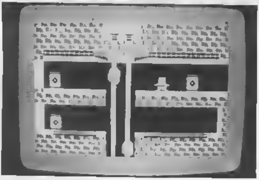
Topper the Copper
Commodore 64
English Software
Price: £8.95/cass

The first thing I noticed about this game was that the instructions are wrong. Why, for example, when I press the F1 key, does that awful din they describe as music not stop? Ah! It's because F3 stops the music. But then which one pauses the game? You can soon work it out, but it's annoying that they can't get simple things like this right.

Topper is what's inevitably referred to as a platform game. All platform games are the same in as much as they involve a character of some description who hops, skips, jumps, or whatever around various rooms. Usually, objects are left lying around to be picked up and there are all sorts of horrible things which will attack you. It's not uncommon for the odd lift or two to make an appearance so that you can move between levels.

Topper conforms to all the standards. What differentiates platform games is the storyline and the final objective. Here, Topper the Copper must hunt down a murderer by finding eight clues which are locked in safes dotted around Mad Marvin's caverns. Who's Marvin? Good question.





Once all eight clues have been found, a riddle must be solved in the courtroom. You can then reveal the bloke wot dunnit and look forward to retirement on a commissioner's salary. Among the suspects are the imaginatively named Col Green Sworde, Serg Grey Rifle and Captain Scarlet Revolver. Topper's not the most difficult platform game I've come across, there are only fifteen rooms for example. At nine quid it's a bit overpriced for what it has to offer.

Ken McMahon

Graphics	★★
Sound	★
Toughness	★★
Staying Power	★★
Value	★★

With Christmas bearing down on us like an overfed turkey on the run, the games compilations start to flood out. Everyone's hoping to repeat the success of *Now Games* and some of them no doubt will. This month no less than five put in an appearance so we've collected them all together for you to make up your mind for those little stocking fillers. Some of the games are getting on a bit so we've picked out comments we made about them at the time, and asked if they've stood the test of time

Mega Compilation
Commodore 64
Interceptor
Price: £7.95

Tales of the Arabian Nights was a deserved top seller and one of the first programs to carry soft speech, quite apart from the super music. A multi-element arcade extravaganza capturing the essence of a Scheherezade tale. Platform jumping, zapping and meanie dodging . . . it's all here, plus the atmosphere

Bigtop Barney, by talented Jason Benham, is a four part circus fandango. In our review earlier this year we said, "I really enjoyed this fun package and consider it excellent, imaginative and addictive." The music matches the setting and provides backing to the moreish, highly original big-top action.

Where's My Bones? is competant but a bit of a yawn except to those enraptured by tortuous obstacle courses and spritely energy sappers. This one leans heavily on slimy creatures and lurid demons which hound your ghostly monk as he searches the scrolling maze for his dismembered skeleton. Not for me

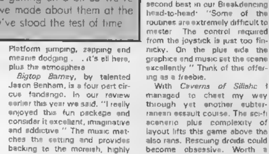
Break Fever was considered second best in our Breakdancing head-to-head: "Some of the routines are extremely difficult to master. The control required from the joystick is just too finicky. On the plus side the graphics and music set the scene excellently." Think of this offering as a freebie.

With *Caverns of Sillahc* I managed to cheat my way through yet another subterranean assault course. The sci-fi scenario plus complexity of layout lifts this game above the also rans. Rescuing droids could become obsessive. Worth a bash

Front Line is a military shoot-up with a bird's-eye perspective. Set your tank loose on the enemy and obliterate abandoned fuel dumps. Targeting your shells is a challenge, yet the opposition don't seem to have too much trouble. A brisk helping of mayhem.

Can't fault this collection for overall value. Laurie Sampson

Sparklers Special
Commodore 64
Thorn EMI
Price: £7.50



It comes in a chunky package yet it isn't a Yorkie Bar . . . then it must be the *Sparklers Special*, which features four Creative Sparks games originally pitched at £7.95 a knock. Three of the titles were reviewed when Commodore User was but a babe

Slurpy heads the package. "a foraging expedition in your local pick-your-own-creepy crawlies cavern" The bionic hoover has stayed the course well and is just as enjoyable to play today. Unlike any other game on offer . . . get to know *Slurpy!*

Orc Attack is a squash-'em-down that certainly shows its age. It is based on the familiar Siege scenario and is typical of the early 64 productions in being somewhat simplistic. You hurl down rocks and make merry with the boiling oil while the attackers batter your battlements with quarrels. "Full sound and good graphics make this an enjoyable game." That quote is now obsolete but the game is o.k. as part of a compilation, while the effect of the big frazzle might please some

Black Hawk is an outing for the sophisticated zapper. "Typical zap-and-dodge action with more than a veneer of refinement. There is a surge of interest with each new level as new targets and defence paraphernalia present themselves." You fly a penetrator craft over a map, knocking out enemy installations when in attack mode and fending off interceptors in defence mode. As you progress the plane is awarded truly awesome weaponry and more sensitive radar. The music was borrowed from Wagner.

River Rescue holds no surprises but I found it somewhat addictive. Utterly straightforward stuff, pick up dozy scientists and make sure your boat doesn't collide with the river bank etc. Yes, you can shoot the crocs.

Overall a decent collection.

Laurie Sampson

10 Commodore
Computer Hits
Commodore 64
Beau-Jolly
Price: £9.95

Brian Jacks' Superstars simulates the well-known TV programme where masochists try to out-suffer each other. Unless you're an avid fan it all becomes a drag.

Jeff Minter produced an arcade/ adventure with *Ancipital*. Apart from being a shoot-up "it's very playable and keeps you amused with lots of wise cracks and zany graphics. Could be Minter's best yet." *(Evidence of our fairness to Mr Minter here — M.P.)*

Seaside Special is a piece of socio-political comment (!) and it's a game and a half . . . "you will have to admit this is a hellishly addictive game with superb graphics."

Jinn Genie is divided into 4 chapters of Arabian intrigue. Zapping and maze running are the main ingredients in this game of only borderline interest . . . but at least the right mood is there.

Fancy a touch of strategy? Lothlorien are the war game specialists and have provided *Special Operations*

Harrier Attack throws everything at you. Take off from the carrier and fight your way over sea and land, unfortunately evocative of the Falklands conflict. Bomb flak batteries and shoot down fighters

Hustler is a superb pool simulation featuring 6 variations on a theme. Although this game has been slightly improved for the C16, the 64 version is still a must

Chuckie Egg is a classic platform game complete with lifts and over 260 levels of play. "However adept you become at coasting through the eight screens, when big Ma duck breaks free it's time for a re-think."

Space Pilot is a brilliant aerial shoot-out spanning the bi-plane and space ship eras, taking in jets and helicopters on the way. Annihilate the formations to progress.

Sorcerer of Claymorgue Castle is obviously a pure adventure from the real pros, Adventure International

There's some really good stuff crammed on to two tapes here

Laurie Sampson

10
COMPUTER HITS
10 ORIGINAL HIT GAMES

6 Commodore Computer Hits
Commodore 64
Beau-Jolly
Price: £6.95

Impossible to fault the value offered by these six titles.

Cadcam Warrior is a bit of a mega production where you guide a droid through a computer system, engaging in 3D combat all the way, in order to rectify a fault. You need to get involved to appreciate the depth of programming.

Hybridise *Time Pilot* with *Moon Patrol* and you end up with *Battle Through Time* There's a constant procession of planes ready to bombard your buggy plus rocks, craters and jack-in-the boxes to jump over T.Rex get a look in.

Heroes of Kern is part of a trilogy but can stand on its own quite admirably A graphical adventure

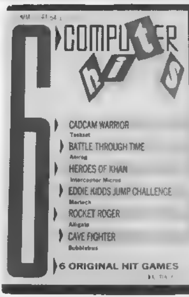
"Although the graphics are tremendous I'm not sure there is enough of a lasting challenge to this game" we claimed in the review of *Eddie Kidd's Jump Challenge*. You get to leap barrels and cars and dabble with wheelies. It's all a matter of balance and accurate gear changing.

Rocket Roger is a tough but very rewarding jet pack aided search for rocket fuel through the caverns of a hostile planet Control is not easy but you need to learn pronto if you are to evade the various aliens and slip through the laser gates A vast playing area is provided, giving that feeling of exploring

Allow yourself the luxury of 99 lives to tackle *Cave Fighter* Precision leaping from ledge to ledge, rope climbing, alien shooting and generally squeezing through narrow gaps make up the gameplay This is a very well designed platform game and not just another exploitation of the familiar style

In all another very reasonable collection

Laurie Sampson



They Sold A Million
Commodore 64
Hitsville
Price: £9.95/cass
£12.95/disk

The label name belies the joint marketing coup of four of the big boys attempting to squeeze the last drops out of their mega titles The title, they reckon — if you add their combined sales across the machines — is the honest truth Which means to my way of thinking they're being a bit greedy and that a lot of 64 owners possess one of these in their collection already.

Whatever reservations I have about the package, you can't fault its components. *Beach-Head, Daley Thompson's Decathlon, Jet Set Willy* and *Staff of Karnath* all on one tape is pretty impressive Each in its own way is a classic in its field

Beach-Head. This has to be the godfather of shoot 'em ups It may not be the best, that's a matter of taste, but it certainly spawned enough copies. I still think it's great fun. Definitely a classic and far superior to its sequel

Daley Thompson's Decathlon· The game that broke a thousand joysticks Waggle your way through the ten decathlon disciplines à la *Track and Field* Though surpassed by this year's sports sims, the 1500 metres is still as bone crushingly, sweat pouringly exhausting

Jet Set Willy: One of the platform games for the 64 Jump and leap your way through the mansion to clear up the post party mess. Up there with the best like *Manic Miner* and *Hunchback* Hunt down the routine that will save you many wasted hours and unnecessary strain on your heart.

Staff of Karnath Ultimate's first 64 game, and the first in the Arthur Pendragon series Destroy the staff hidden under the ancient obelisk to break the evil spell of Karnath Again another first of sorts and the beginning of a formula of hits for Ultimate Worth having if you possess either *Blackwyche* and/or *Entombed*.

No complaints then about this little bag of goodies. You can expect to see it enter the charts faster than a hacker burrowing into the Duke of Edinburgh's personal account. A trifle greedy of the software houses I feel, though.

Mike Pattenden

Henry's House ... and friends!
Commodore 64
English Software
Price: £6.95

Three arcade and one adventure lumped together for the price of one normal tape

Henry's House is indeed Buck House, decorated with plush graphics and plenty of detail and so much colour it virtually drips off the screen. There are eight rooms of pure platform-hopping tribulations, with a complement of tokens to gather in before the next screen is accessed. Imaginative hazards block any easy passage but you won't mind as they add to the visual experience

Not relying on pictorial content for its appeal, *Jet-Boot Jack* is a 'level' game spread over ten screens in which the player finely tunes the degree of difficulty The idea is to skate around mopping up musical notes, taking fuel pods for your jet boots, avoiding fracturing your skull on stalactites and skirting the three forms of monster The floors slip and slide about, adding to your problems Could become habit forming

Stranded is a graphic adventure that lands you with the unenviable task of escaping from a planet completely foreign to you Using your wits, true grit and the computer keyboard, your ultimate aim is to return to Earth As a special hint English Software urges the player to make maps (ta very much!). Come in John Ransley

Back to safer ground with *Neptune's Daughters* which is certainly dated. Probably the only place for it is in a collection like this where it creates a bit of a diversion. Virtually the only enjoyment is seeing just how slick you can become. You skim through three preliminary caverns, blasting a way through jelly fish and warding off octopuses, which multiply with each level. Cavern four has the diver eliminating a quota of amoeba prior to rescuing a damsel from the slimy clasp of a sea serpent

Again no complaints over value

Laurie Sampson

On

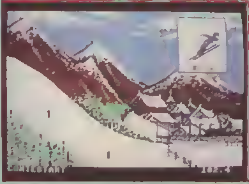
This is the seasonal sequel to *Summer Games II* we've all been waiting for. If you're tired of pulling on the shorts and training shoes then this is the sports simulation for you. It's après ski time out on the piste with your salopettes firmly zipped about you.

That said, what we have here is the seasonal equivalent of *Summer Games II*. Like its predecessor it stands up as a superior sports simulation which necessitates the use of skill and good sense rather than the ability to ram your joystick from side to side.

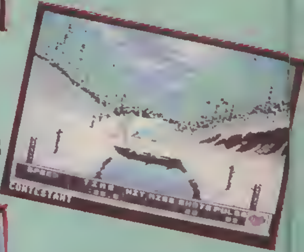
As *Summer Games II* gives you the choice of nations and the chance to compete against someone else, so it is with *Winter Games*. World records and the opportunity to practice events may also be selected.

SCREEN STAR

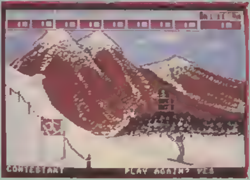
Winter Games
Commodore 64
Epyx/US Gold
Price: £9.95/cass
£12.95/disk



SKI JUMP: This is the one that looks suicidal when you see it on telly. Hit the fire button to send your skier careering down the icy slope and fire again to make him take off. If you forget, he falls off the end. This is fun so make him do it a few times anyway. When you're bored with that, make him jump and struggle to control him in the air as his skis wobble and his nose comes to rest on their ends. The faster you correct his problems the further he goes and the more points he gets for style.

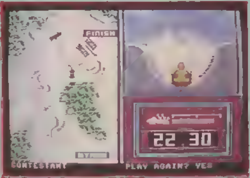


BIATHLON. This is the cross-country killer dominated by Finns and Russian snow troops. Strap on your skis and sling a rifle round your shoulder and yomp across the snow drifts. Get to know the terrain here. You go across two flat areas, down a hill, and up a hill. Don't waggle your joystick madly or you'll mark time on the spot. When you come to the targets your heart beat (indicated on the bottom right of the screen by a swelling red cupid symbol) causes the sights to wobble. Timing is essential to hit the targets. If you miss you incur time penalties. Don't waste time either, though.



HOT DOG AERIALS: This is the kind of sport that gets ten minutes as a diversion on World of Sport on a Saturday. Basically, you do aerial acrobatics with a pair of skis on your legs. By moving your joystick you can select a number of different jumps like the Daffy (in which you open your legs in mid-air!), Back Scratch (you kick yourself in the back of the neck — or something like that), Back Flip, Forward Flip, Swan and Mule Kick. You are subsequently marked out of ten for your efforts. The more difficult the manoeuvre the higher you score. To score straight tens combine two moves, a difficult one and an easy one.

THE PISTE!



Winter Games is everything you might expect it to be if you've seen a copy of *Summer Games II*. The gameplay is better than most sports simulations could ever hope to be. The graphics, because of the alpine locations, look even better than its high season predecessor. My only grumble is the inclusion of two skating programs which becomes boring and repetitive. Why not a slalom event? Or the downhill, which would have been much more exciting than trying to do a John Curry. There's nothing quite as good as the javelin event either but that's just a personal favourite. If the mega buck grabbing compilations don't grab the Christmas number one spot this must.

Mike Pattenden

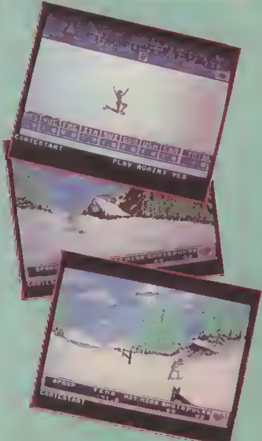
Graphics	★★★★★
Sound	★★★
Toughness	★★★★
Staying Power	★★★★
Value	★★★★

BOBSLED: This is the event where you hurtle down the ice like a bullet. Hit the fire button and you're away. Twenty-two seconds later (approximately) you'll have finished. It's not quite that easy because you have to slam the joystick hard over to steer against the bends. If you don't, the sled overturns and you'll be eating hospital food for months. For a really fast time keep the joystick pushed forward, pulling back slows you right down.

FIGURE SKATING: This is the one-minute ice routine in which you have to complete an exercise of seven compulsory movements. You control a graceful and well-built lady skater and put her through her program to some gentle music. Your dexterity with the joystick will largely dictate whether the lass flies through the air as if she's been thrown by Christopher Torvill or falls on her backside as if she's been body-checked by Big Daddy. The trick here is to realise that she will only perform some movements if she's pointing in the right direction. Good co-ordination between fire button and stick direction are necessary to ensure that she doesn't get a very cold, er, reception.

FREE SKATING: This involves the same moves as the figure skating, but you must put your own routine together. A two-minute display of choreographed artistry is what is required. The music is not Bolero. Try to get in at least three of each of the difficult moves like Triple Axel and Double Lutz. Just running through them, though, won't get you sixes across the board.

SPEED SKATING: This is a simple race against the machine or your opponent. Probably the closest thing to the boat and bicycle racing of *Summer Games II*. Again, you need to bear the simulation idea in your head. Waggling the joystick furiously will simply cause him to twitch like a dypsomaniac's eyebrows. A measured rhythm is needed to propel him along the ice. Accelerate carefully



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CRASH, February [illegible]

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Rally Driver

[illegible]
CRASH,
February [illegible]

Car rally [illegible] driving and [illegible] — you choose the [illegible]

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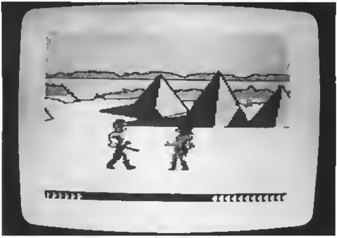
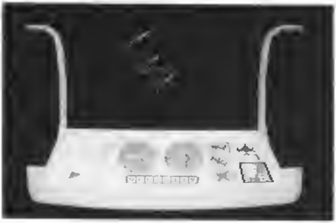
Spectrum [illegible]
Commodore 64 Amstrad [illegible]

Previews

The Warrior in the picture is about to commence a heroic quest to rescue the mummified princess Thia. As he walks through the desert, past palm trees and pyramids, he is attacked by all manner of nasties including lizard men and tigers. Armed with his trusty sword he must defeat all comers if he is to rescue his beautiful princess. **Fighting Warrior** is an Exploding Fist type game from the same company that brought you that karate blockbuster. Full review next month.





It's all happening in 3D again if the latest batch of new releases are anything to go by. Melbourne House have finally released their conversion of hit Spectrum game **Stario** (left) for the 64. This will be rivalled by Domark's **Code Name Matt II** (bottom) — another Spectrum conversion. Both games offer tremendous graphics and tons of strategy. Will they be as good as the bench-mark Elite? Chris Anderson brings you a special two-page head to head in next month's Commodore User.

SEPTEMBER COMPETITION RESULTS

Superman Comp: Congrats to Paul Oldmeadow of Sheppey, Kent. The idea wasn't new (Superman spins round the earth and makes time go backwards etc) but the story was well told. Richard Walker (not as funny) and Andy Clarke (a little risque) had the same idea but just missed out on the prize.

Summer Games Comp: Nearly all of you got the ten decathlon disciplines right, but the first 25 to win copies of the game were: Christopher Hartley of Oswestry, Brad Howarth of Bristol, David Hempsey of Sheffield, Tony Watts of Crawley, Richard Walker of Dudley, Jon-Paul Taylor of Southampton, Daniel Lezeno of London, Tim Appleyard of Stockport, Tim Fussell of Bath, Peter Beech of Solihull, Hassan Shah of Greenford, David Finney of Chingford, D. Salmon of Maidstone, C. Harris of Aweworth, P. Cronin of Kempston, Richard Lawton of Dudley, Henry Topham of Keighley, Aleck Harkness of Newbury, Ian York of Clacton, Marc Childerhouse of Norwich, Leigh Riby of Hull, Andrew Clarke of Atherstone, Stephen Vain of Manchester, Mansoor Mohi-udin of Grimsby and Jonathan Attersley of Benfleet.

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To put the Triton Quick Drive through its paces we used an ordinary computer game – Jet Set Willy.

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TRITON
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Proof indeed that the Triton has all the capabilities of its more expensive rivals.

AS TEST DRIVEN BY THE EXPERTS.

New it may be, but the Triton Quick Disk is already receiving rave reviews in the computer press. For example, in a recent Home Computing Weekly article it picked up their much coveted "Flipped" award.

As their journalist said ".... I am very impressed by the Quick Disk. Not only is it very quick, and both smaller and neater than other drives, but it's easier to use as well...the Quick Drive performed faultlessly.

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Run For Gold
Commodore 64
Hill MacGibbon
Price: £7.95/cass

Compared to watching paint dry, playing this Spectrum conversion comes a close second

You take the part of an inexperienced and unknown middle distance runner You must beat the field in small local events before graduating to the major competitions like Crystal Palace and the European Championships The final goal is to compete in the Olympic Games and win the gold medal. To all intents and purposes each event is exactly the same, other than at the more prestigious events the competition runs a bit faster

The screen is divided into two windows The larger right hand box shows your view of the track and surrounding stadium Your man is depicted in the centre of the screen from the rear The right hand window contains a speed and energy meter, as well as a digital indication of the distance remaining to the tape

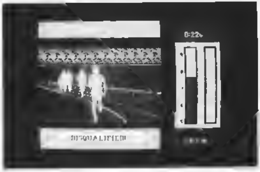
'On your marks, get set, go' says the starter With a little imagination they could at least have included a gun. As it is, the only sound is the dull thud of your runner's feet on the asphalt and this is much too slow You have to adjust your runner's speed to suit the required tactics for the race The faster he goes, the more energy he uses, so if you go flat out you'll end up hitting The Wall before you reach the home straight

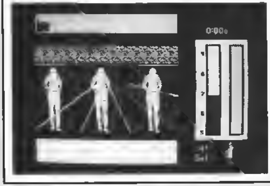
The only praiseworthy thing about the program is the animation. The slow motion rear view of the runners is stunningly realistic and beautiful to watch, which, unfortunately, is about all you can do.

If for some inscrutable reason, you go out and buy this, I have some advice Go for the 1500 metre option first. If you manage to complete the race without falling asleep, then you can try the 800 metres which is only half as boring!

Ken McMahon

Graphics	★★★
Sound	
Toughness	★★★
Staying Power	
Value	





Red Arrows
Commodore 64
Database Software
Price: £8.95/cass

The bad news is that *Red Arrows* is yet another flight simulator for the 64 By my reckoning that makes at least a dozen now, probably more The good news is that it at least has an element of originality about it

As you've probably guessed, you are cast as one of the Red Arrows formation flying team, RED 8 to be precise Your job is to keep up with other members of the team as they perform cunning stunts at death defying speed

There are two parts to the program. In Red Arrows proper, you complete a full display with the team Red Leader calls the shots, his radio instructions scroll along the bottom of your instrument panel (this would have been brilliant with sound, shame). The instruments are much the same as those on other simulations. Air speed indicator, rate of climb, thrust, artificial horizon, etc The view from the cockpit is pretty good if a little chunky on the graphics

The aircraft itself, a British Aerospace Hawk, is a pretty tough bird to handle (flying talk, that) So if the idea of flying wingtip to wingtip with the rest of the boys makes you reach for the brown trousers, you'll be glad to hear that there's a practice mode

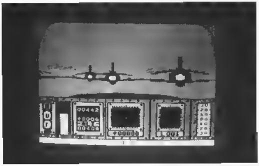
Training mode allows you to fly around on your own to get the hang of the controls This way at least the only person you can kill is yourself Once you've got the hang of that (it takes a while) you can practise individual manoeuvres with the chaps. To make things a bit easier the computer will control either the thrust or steering, but not both as there wouldn't be anything for you to do

Red Arrows is a lot more difficult than some other flight simulators I've played The plane is more difficult to control and the object of the game, rather than to provide fast action, is to fly difficult manoeuvres to within fine tolerances It should appeal to those solitary fliers looking for a bit of company — over and out, Red Leader

Ken McMahon

Graphics	★★★
Sound	★★
Toughness	★★★★
Staying Power	
Value	★★★

ARE THESE OK?



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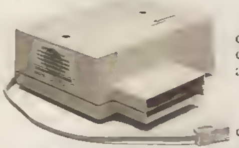

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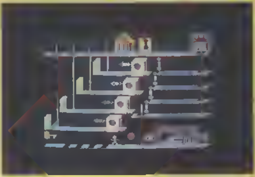
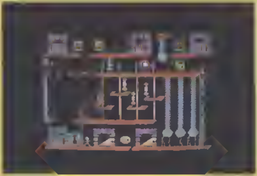
Castles of Doctor Creep
Commodore 64
Ariolasoft
Price: £9.95/cass



The graphics and sound of this little number have all the class of a 1982 version of Space Panic. Really primitive stuff. But don't be misled. *Dr Creep* falls into that select class of titles (including *Lode Runner, Boulder Dash, Bounty Bob)* where the gameplay itself more than compensates for uninspiring first impressions.

Initially the game idea sounds tediously familiar. Your diabolically animated character is trapped in one of Dr Creep's 13 castles and must escape by picking his way carefully through a number of hazard filled screens, collecting keys to open doors and avoiding dangers such as mummies, Frankensteins and ray-guns. Other not very-original game features include conveyor belts, lightning machines, teleporters, trap-doors, poles to slide down and force fields.

What makes this game different is that most of these features have a corresponding control box somewhere on screen. This means it's possible to turn them to your own advantage. So for example, you can use the ray gun to zap a pursuing mummy, or open a trap door just as a Frankenstein is passing. More satisfying still is to use one of your enemies to do one of your tasks for you. In castle one it's possible to lure one of the Frankensteins down a pole and thereby activate an otherwise inaccessible conveyor switch.



Another point which helps make the game a real brain twister is that you can't simply solve the screens one at a time. Each castle's different rooms connect by numerous different doors, and only a small part of the room you're in may be reachable from the door you first enter it by. Normally you have to go through each room many times doing a different task each time before you can escape the castle. Working out the right order can be desperately difficult yet very satisfying.

But perhaps the best point of all is that the game can be played simultaneously by two players (two joysticks required) — they can either race each other for the exit, or, even better, cooperate for an ultra fast escape time. Indeed for some of the castles (e.g. number 2) cooperation is about the only way of avoiding tearing your hair out.

There are 13 different castles each containing 10-20 different rooms — an impressive total of some 200 screens. Unfortunately these can't all be contained in memory at once, and you must load castles individually from side two of the cassette.

Overall, I went for this one. The graphics may give you the creeps, but that addictive gameplay is just what the doctor ordered.

Chris Anderson

Graphics	★
Sound	★
Toughness	★★★★★
Staying Power	★★★★★
Value	★★★★★

Batalyx
Commodore 64
Ariolasoft
Price: £9.95/cass
£12.95/disk

A game called *Batalyx* could only have been written by a bloke called Jeff Minter. Yes, the guru of zap strikes again.

Batalyx is actually six sub games rolled into one. If you get bored you can leave one game and play another.

You don't have any lives as such, but a fixed amount of energy. This depletes whenever you do something amiss in any of the games. The object is to get as high a score as possible.

Game 1: You control an orb. When you push your stick left the orb fires left but moves right. Shoot the most imaginative nasties in computer gaming including horny beasties, pints of beer, and bearded pacmen.

Game 2: Mini Attack of the Mutant Camels. Blast the dreaded dromedaries to bits with your fighter ships. Hyperspace to bonus levels. Superb graphics.

Game 3: So way out I couldn't even begin to describe it.

Game 4: Ancipital without the rooms. Destroy the grey globes before they bounce away and make holes in the floor and ceiling through which you're liable to fall if you're not careful. Your horny beasty fires faces, pyramids, little furry rodents and notes saying 'it's your round'.

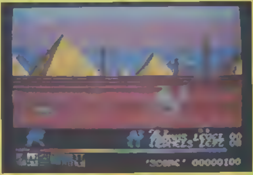
Game 5: More whacky stuff. Orbs fly around the screen against a background of windows containing coloured patterns. All this is accompanied by an ominous church organ sound. By placing a cursor over the grids you can give yourself a migraine by causing the pattern to whizz past the window. As well as changing the tone of the note, this causes the orbs to change their pattern of movement. You must get all the patterns whizzing in the right direction to stop the orbs.

Game 6: Not so much a game as an elaborate pause button, simple Psychedelia. Amazing stuff.

If you've got nothing else of Jeff Minter's make sure you get this, it's brilliant.

Ken McMahon

Graphics	★★★★
Sound	★★★★
Toughness	★★★
Staying Power	★★★★
Value	★★★



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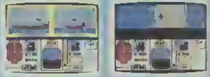
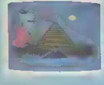


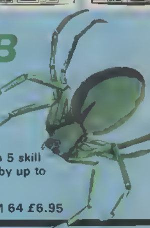
CBM64 Version

TOM THUMB



CBM64 Version

Hidden within the torturous passages in the depths of six Egyptian labyrinths lies buried the Pharaoh's treasure. Tom's journey is perilous and requires strategy and skill.



Tom Thumb is a game with 5 skill levels that can be enjoyed by up to 4 players.

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ATLANTIS

An outstanding multi-screen game with superb animation. The mission is simple - rescue the sailors and other captives of evil King Neptune. The treasures of the lost city of Atlantis are incalculable but be wary of the sharks, crabs, sea horses etc. lurking in the murky waters.

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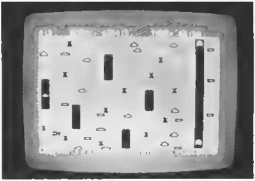
Doughboy
Commodore 64
US Gold
Price: £9.95/cass £12.95/disk

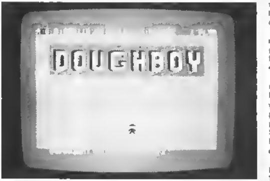
What a corker! In case you thought a doughboy was a junior gingerbread man, let me inform you that the word also refers to a US infantry soldier. In this game, the poor GI has been given the job of rescuing the President, who is being held in a POW camp behind enemy lines.

Certain Presidents you may prefer not to rescue, of course, but unfortunately this one doesn't have a name, so we must give him the benefit of the doubt.

There are six screens of increasing fiendishness, but all of them are beautifully designed and laid out. On the first you must move your scuttling figure across the trenches, collecting the supplies needed for the mission: TNT, fuses, mines, wire cutters and ladders. To avoid incoming rockets (which home in on you quite viciously) and enemy soldiers, it's a smart idea to hide in the trenches. If you get through, collect a key in the bottom right-hand corner of the screen, and move on to the next.

Here there is a system of radar towers overlooking several canals. Since these can easily become your watery grave, you must find your way across not by rubber dinghy but by blowing up the towers (hence the TNT), which always collapse obligingly across the nearest waterway, enabling you to use them as bridges. Before long you realise that you need the fuses here too.





Ingenious and amusing use has been made of the fire button to allow the player to lay his TNT and then pay out a length of fuse before lighting it. Failure to get far enough away results in a premature explosion and a nasty headache in the morning for your doughboy.

Screen 3's hazards are marauding tanks, and your objective is to cut holes in the fences and blow up a series of oil silos.

Those tanks really turn nasty in Screen 4, whilst in 5 you must break into the POW camp using your ladders. If by some fluke (or possibly by sheer teeth gritting persistence) you make it to Screen 6, the President must be hauled out of his jail and guided out of the camp.

Doughboy looks neat and plays logically. It is also by far the most absorbing game I've looked at this month. The joystick controlled figure is nice 'n' chunky and responds smartly to one's frenzied commands. The idea isn't originality itself, but it is good to see it perfected. Hard to find any criticisms, really, so I'll end with a useful tip: try the two-player option when first attempting the game, but without an actual opponent. There is still a certain amount of flak flying about, but far less than normal. It enables you to get the hang of laying those fuses without blowing yourself up the whole time, and to figure out how to use the wire cutters. Great fun!

Peter Jones

Graphics	★★★★
Sound	★★★
Toughness	★★★★
Staying Power	★★★★★
Value	★★★★

Super Zaxxon
Commodore 64
US Gold
Price: £9.95/cass £12.95/disk

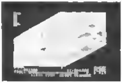
Many of you will no doubt recall the revered — and indeed successful — *Zaxxon*. Here, therefore, as surely as night follows day, comes the sequel, a shoot 'em up in the classic style.

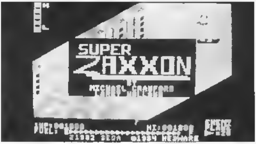
Sequels are the things nowadays, as Sylvester Stallone has recently proved. Why didn't they call it *Rambo — Second Blood I* — that's what I want to know?

In *Super Zaxxon* the idea is to guide your fighter first over the defended city and then through a tunnel. The whole scenario scrolls smoothly in isometric projection, i.e. a 3D 45 degree angle, and your fighter casts a sinister black shadow beneath you, thus helping you judge the height from which to blast your quaking victims to smithereens.

Of course, you must also avoid being disintegrated by a variety of defensive forces, including a menacing horde of out of control vacuum cleaners, fried eggs and iced lollies. The worst problem, however, is a series of electric fences which you can either fly over (easy) or under (well nigh impossible with my arthritic fingers on the joystick).

If you can blast the iced lollies which rise to meet you from the city, there's a beefy score to be had before you carry on to do battle with the denizens of the tunnel. The vacuum cleaners are a cinch: they don't fire back — at





least, not in the early stages. But the careering fried eggs must be avoided at all costs — unless you want to finish up with egg on your face (so to speak).

In carrying out this dangerous and destructive mission I couldn't help being reminded of trying to drive against the flow of rush hour traffic over Waterloo Bridge and the Aldwych underpass.

This could be a dangerous weakness if you take the view that London commuters are quite harmless folk who don't *all* deserve to die. If this is what it's going to be like travelling to work in the 21st century, I think I'll stay at home. You have been warned.

Peter Jones

Graphics	★★★★
Sound	★★
Toughness	★★★
Staying Power	★★
Value	★★★

Stealth
Commodore 64
Ariolasoft
Price: £9.95/cass

A fast moving 3D shoot em-up *Stealth* s ancestry is that of the Buck Rogers games you have a camera eye view just behind and above the craft you control as it races forward through hostile territory bustling with enemies

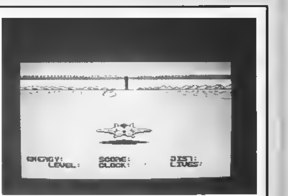
The terrain flashing past you at high speed is suitably bleak (if indistinct), the only real feature of interest being a dark tower in the distance, whose height gradually increases as you approach Your mission is to destroy this tower since it contains a particularly evil set of people who, surprise surprise, are planning nothing less than the destruction of Earth

Only you and your Stealth Starfighter can save mankind from this fate and that s bad news for mankind, because the tower's defences are pretty mean They consist of the following

- *Bunkers* fixed artillery sites
- *Tanks* slow moving but easy to pile into
- *Aircraft* two different types swoop in at you.
- *Radar towers* on the higher levels you have to shoot every one of these or they trigger a highly dangerous heat seeking missile
- *Volcanoes* active ones spew molten lava at you

Being hit by enemy fire will deplete your energy, although you can restore this by passing through energy fields However, collision with an enemy craft itself loses you one of your three lives

Joystick control allows you to accelerate and slow down as well as move left and right — sadly, you have no control over altitude A gauge at the bottom of the screen shows how much distance you have remaining to reach the tower Once you're near, fire like crazy and watch it topple Then try a higher difficulty level — there are five in all



The nicest thing to be said about the action in *Stealth* is that it s extremely fast But this causes problems enemies flash past so quickly you don't really have time to see what they look like, let alone respond in an intelligent way. So there s not much strategy or thinking, just quick shooting and dodging

For me, this game became boring pretty quickly With nothing to get particularly excited about on the sound or graphics front either, I found *Stealth* just a little bit flat

Chris Anderson

Graphics	★★★
Sound	★★★
Toughness	★★★★
Staying Power	★★
Value	★★

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Karateka
Commodore 64
Ariolasoft
Price: £9.95/cass

First impressions of this game are awe-inspiring. A superb musical score to accompany scrolling on screen instructions, followed (after some more loading) by a magnificently animated karate warrior (that's you by the way) climbing onto the top of a cliff in preparation for deadly combat.

He moves forward stealthily and oh-so smoothly. To compensate for his advance, the scenery scrolls backwards (at two different speeds for perspective's sake). Suddenly an enemy warrior appears on screen and fists and feet begin to fly in spectacular fashion.

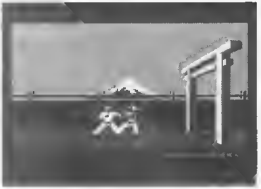
Karateka is the latest program to capitalise on the current fad for combat action, most successfully exploited by *Exploding Fist*, the program with which this is most likely to be compared. In its favour, *Karateka* has a stronger atmosphere and story-line. You're on a mission to rescue Princess Mariko from the palace of the evil warlord Akuma. As well as trying to outfight the palace guards, you're also trying to make progress further and further into the palace.

The story line is strengthened by techniques lifted from the cinema. After you've killed your first guard, the picture cuts to a shot of Akuma sending out reinforcements, then it cuts back to you as you run towards the palace, then back to one of the advancing guards.

What is less convincing is the combat itself. There are far fewer moves than in *Fist* — just six main ones (three punches and three kicks of different heights).

Also, the action is much slower — the computer takes quite a while to execute each move, with the result that you often appear to lack direct control over your character. More frustrating still is the lack of a two player option. It's just you versus your 64.

One good feature is that hits are clearly shown on-screen by means of cartoon type flashes. Also on screen are lines of arrows revealing the remaining strength of you and your opponent. Whoever runs out of arrows first dies, and that brings me to the worst feature of *Karateka*. Every time you die you have to reload the game's start position from side two of the cassette — a good two minutes' wait! Ariolasoft point out this is an incentive to improve, but it's also a disincentive against buying the game in the first place.



All in all, a game which is flawed, but which nonetheless includes some classy programming and is different enough from *Fist* to be worth checking out.

Chris Anderson

Graphics	★★★★★
Sound	★★★★★
Toughness	★★★
Staying Power	★★★
Value	★★★★

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CU/03

Paradroid
Commodore 64
Hewson Consultants
Price: £7.95/cass

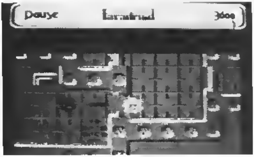
Paradroid confirms the emergence of Hewson's Andrew Breybrook as one of Britain's most exciting 64 programmers His previous game, *Gribbly's Day Out*, was packed with entertaining, original gameplay and this one, although extremely different, is just as classy

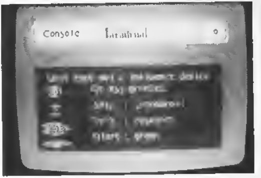
The action takes place on board a galactic space freighter', a craft made of 20 different decks each viewed from above through a smooth-scrolling window The total playing area is apparently equivalent to some 400 screens.

You have control (joystick only) over a droid which has been beamed onto the ship for the delightful purpose of eliminating the craft's entire robot crew — they've mutinied so they deserve it, right?

Part of the game simply involves gliding around the decks blasting everything that moves. Even if that were all it wouldn't be bad, because the control feels superb — super smooth with a nice inertial effect — and the graphics, although fairly simple, have a cool, modern look to them The sound, too, is effective and atmospheric.

But there's much more. The enemy robots are far more powerful than your droid and in order to make any real progress you have to transfer control to one of these Achieving this is a separate game in its own right





First you must ram the robot you want to transfer to The screen then switches to a pleasing little strategy game cum shoot out, in which you must try to gain control of the robot's circuitry by sending pulses down carefully-selected wires

If you succeed, you have control over the new robot, complete with its superior fire-power and can continue until energy runs low and you need to upgrade again

Once all the robots on one deck have been wiped out you can move to another using one of the many lifts which interlink them The types of robot vary throughout the ship — there are 24 different categories, some much faster and deadlier than others You can get information on any less powerful than the one you're controlling by accessing the Droid Data Library via one of the many deck consoles.

Another example of the program's imaginative attention to detail is the way your energy is revealed — not by the usual gauge or counter, but by the speed at which your robot rotates All in all an addictive shoot-em up which looks and feels superb

Chris Anderson

Graphics	★★★★
Sound	★★★
Toughness	★★★★
Staying Power	★★★★★
Value	★★★★★

Schizofrenia
Commodore 64
Quicksilva
Price: £7.99/cass

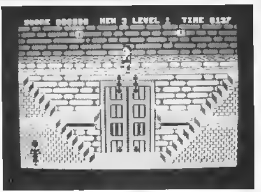
SCHIZOFRENIA

Alphonse T Nurd works as a cleaner in the laboratory of Bogdan Schtunk (sounds like our deputy editor). Bogdan's something of a scientific genius and has devised a method of splitting people in two A bit like Jeckyl and Hyde, but without the inconvenience of both being stuck in one body

Nurd, being the meddling type has managed to give himself the Schtunk treatment and has created Nurd 2 — his alter ego personified — who sets about creating havoc in the lab Nurd 1 realising that Bogdan isn't going to be too happy about this, must, with your help, try to recombine with his double before he does too much damage

There are five areas in the lab I spent a good two hours getting through the first so let's start there All you have to do is open the door to area two Simple? I'm afraid not. First you have to climb the stairs and set the score control and timer switches Then there are four doorbolts to be undone before pulling the release lever This would be dead easy were it not for Nurd 2 who beetles around undoing all your hard work. Whilst you're busy undoing the bolts he's resetting the switches So you fly up the stairs to the switches and he shoves the bolts back in It's like trying to fill a bucket with a hole in it

If you manage to open the doors without developing mental problems of your own, you're confronted with similarly frustrating tasks in the following



sections Finally, area five gives you the chance to merge the Nurds in the recombination chamber

Schizo is an infuriatingly addictive game and should provide a challenge for even the most accomplished players One criticism. Nurd must be manipulated with tedious accuracy One pixel either way and he misses bolts and buttons or worse, falls to his death A bit more leeway would have made for a smoother flowing and fairer game

Kan McMahon

Graphics	★★★
Sound	★★
Toughness	★★★★
Staying Power	★★★★
Value	★★★

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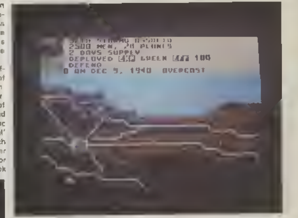
Decision in the Desert
Microprose/US Gold
Price: £9.95/cass £14.95/disk

Decision in the Desert allows the player to fight desert battles of World War II in "accelerated real time"

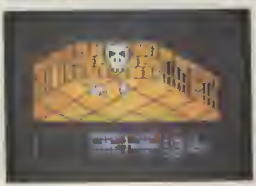
Like so many of the recent wargames *Decision* suffers from a couple of basic faults Despite the extensive background information made available to the player in the rules booklet, unless you are a tactical historian, you won't be able to make head or tail of the situation presented on the screen The 'overview' option, available in all games of this type, does little to improve the players perception of where his forces are and what he should be doing with them.

Graphics wise, the game offers two different types of screen display – icons and symbols The icon option shows fairly well designed pictures of tanks, trucks, infantrymen and so on The symbols are the basic tactical signs used in 'real' wargames of this type which means that you must be either very familiar with the system, or you must refer to the rulebook every other move



The method of controlling the player's forces is simple. A cursor placed over the designated unit (there is a joystick option) displays firstly name and type of the unit (4th Armoured Division for example), the unit's strength and troop experience level (Green, veteran etc), and it's level of effectiveness as a percentage The next level down lists a table of options for that unit – Move, Attack, Defend Reserve, and the prompts are simple and easy to understand

But what makes this game different to many of those currently on the market is that it is not played in game turns All the time the players are giving instructions, the units are carrying out their orders engaging in combat and taking losses This means that if you're playing against the computer, you are continually in action, rather than waiting for the opponent to move The speed of the "accelerated real time can be



Wizardry
Commodore 64
The Edge
Price: £9.95/cass

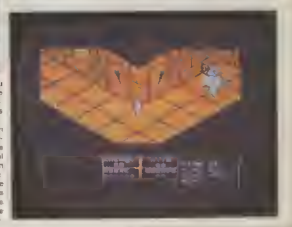
Wizardry is Steven Chapman's long-awaited follow up to *Quo Vadis* It's another arcade adventure of absolutely massive proportions, guaranteed to blow some people's minds, while boring others to death I think I belong in the former category

The first thing that strikes you about the game is that the graphics look mighty familiar – not so much like *Quo Vadis* as Ultimate's *Staff of Karnath* Mind you, these were well worth copying. The endless paving-stoned floors and bricked walls punctuated by the occasional flickering torch or carved pattern lend a suitably eerie atmosphere

More unusual is the use made of background music. This changes each time you enter a new room according to the monster contained in it Frankly it got on my nerves after a bit, but it's a good idea There are no other sound affects

You take the part of the rather boring looking apprentice wizard Dunn who has been despatched to the Castle of Illusions to try to seek out something called the Prime Elemental and wipe it out with a spell

However numerous puzzles need to be solved on route. For example you have to discover a spell to use on a skull, to open a secret passage to give access to a magic door, to find a map, to lead to another spell, to destroy a guardian, to open a new section of the game, and so on ad infinitum. The spells (sample titles knock, needle's eye, mazel are found in the chests present in



altered, but even at the Slow setting there is a lot happening on on the screen at any one time

In the two-player version, the division of time at the keyboard is left to the players discretion which could lead to some interesting arguments, to say the least! However, this is obviated by a delay between giving orders to a unit and that unit actually carrying them out, which should dispose of arguments like "but I was going to move the 7th Tanks Corps out of there! Honest!"

The screen scrolls in a standard manner, but in at least one of the scenarios (Gazala The Cauldron) it hardly seemed worthwhile The entire battle takes place on just over a screen and a half of playing area

If you're a fanatical wargamer looking for a wealth of historical accuracy and detail this is the game for you If you want an enjoyable, short wargame which gives you the feeling that you are on top of the situation, knowing what's happening and able to direct your units with a minimum of fuss then you may not be entirely satisfied.

Jon Sutherland

Graphics	★★
Sound	★★
Toughness	★★★
Staying Power	★★★
Value	★★★

most rooms, but many of them can only be used once.

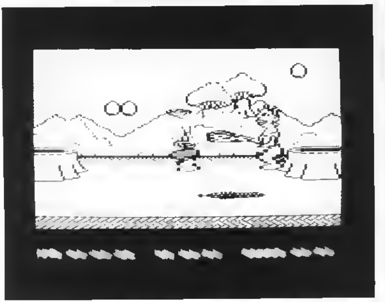
Meanwhile your every step is dogged by a series of suitably evil looking enemies such as spiders, witches and deadly flying skulls These can be despatched using one of the limited number of 'fireball' spells Alternatively, you can waggle a sword at it Decathlon style and hope it dies before you do Depleted energy can be restored using a 'heal' spell

The playing area is vast Apparently there are no less than 70 different stages to be tackled in turn each protected by its own guardian Since solving just one stage requires moving back and forth through several different rooms a successful trip through the entire castle must take many hours

For people who like mapping, and fancy the prospect of a Herculean challenge this game is a dream come true

Chris Anderson

Graphics	★★★
Sound	★★★
Toughness	★★★★★
Staying Power	★★★★★
Value	★★★★★



William Wobbler
Commodore 64
Wizard
Price: £9.95/cass £12.95/disk

Eureka! Another software house offering big money prizes for the first to complete their game £1 000 worth of treasure awaits the first 64 user to solve William's problems.

Wobbler (so named because his head wobbles when he walks) is a weedy yet rather large dragon You must help him negotiate a cavernous labyrinth and seek out the clues to a mystery

William begins his quest in the green and pleasant lands above the caverns Not so pleasant actually, as before he knows what's happening he is pursued by a grizzly looking cavewomen with a club. The only solution here is to run away The flying insects are much easier to avoid, William is a master at the art of ducking

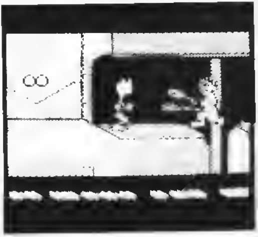
There are ten holes through which you can drop into the labyrinth but only one of them will get you anywhere The other nine have guards blocking the way forward If you find yourself down one of these the only thing to do is find your way back to the beginning climb up the rope and try another one The unguarded hole is different every time you play so there's no easy way round it.

Once you've got the right entrance, there's a clue, a key, and another funny looking object to collect Try as I might, I couldn't get the key though It's suspended from a hook and feeble old William can t jump high enough I tried a number of things including waiting for the cascading boulders to knock it off, but succeeded in getting myself knocked off instead. By the way, no second chances here, one life only, just like the real thing

As an adventure WW should provide a tough challenge for anyone Wizard aren't about to throw away ten grand for nothing But quite honestly the game itself isn't that exciting The graphics are a bit on the dull side and the whole thing has an unspectacular feel about it. Unless you can't resist the cash incentive go for a game without a gimmick

Ken McMahon

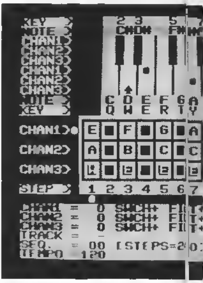
Graphics	★★
Sound	★★
Toughness	★★★★★
Staying Power	★★★★
Value	★★★



A MIXED BAG

64 Utilities round-up

Here's another of our occasional round-ups of "serious" and utility software for the mighty 64. There's the new Electrosound synth package, Font Factory, the Tasword 80-column wordprocessor, a BBC Emulator and the Final Cartridge — our reviewers have been working overtime.



Electrosound's Sequencer screen.

Electrosound 64

Electrosound 64 is the latest synth package from *Orpheus* It includes the usual synth program, sound presets, sequencer and drum machine Despite its 'budget' price, £14 95 on tape (£18 95 on disk), it's still competing with an already huge range of similar packages — so it's got to be real good

Well, first impressions are not very favourable the screen display looks impossibly cluttered and the manual unfriendly The saving grace is the Music Demo program at the end of the tape which makes a spectacular meal of Vivaldi, Beethoven and what could pass off as Howard Jones. If Electrosound can do this, it must be good So let's persevere with it

Electrosound has five basic options. manual play, sequence write/play and track write/play Manual Play turns the upper part of the 64's keyboard into music keys. You have three music channels (you can play any permutation of them simultaneously) and a set of ten sounds or 'voices' Another four sets of 'voices', one for drums and effects can be loaded in.

The voice presets are very impressive, giving a huge range of sounds and effects. Trouble is, finding and using the keys to change the ADSR envelope, filters, channel playing mode, tuning and the myriad other facilities on the screen is annoying and confusing — and the manual gives scant help. By the way, the manual play keyboard arrangement corresponds with Commodore's Music Maker, so you can use its keyboard overlay instead of the cumbersome 64's keys

On to the sequencer again you have three simultaneous channels (three part harmonies) and the choice of any of the preset voices, plus the ones you've edited yourself. Notes and drum beats are placed on a grid pattern which is played, fast-forwarded and rewound like an imaginary taperecorder. Annoyingly, you must find out for yourself that you must use the fast forward key to actually enter notes on the grid (or phone Orpheus)

Sequences can be looped, copied and strung together into tracks, which can then be played as a whole. This gives you plenty of scope for ambitious compositions with loops and repeats Careful note arrangement lets you use all three channels and get a drum beat into the bargain

Electrosound 64 is a complex product for the price, as the reference section in the manual shows. Trouble is, it's so cumbersome to understand and use for beginners, that their enthusiasm to delve further may be hosed-down. That would be a pity.

Bohdan Buciak

- Electrosound 64
- Orpheus Ltd,
  The Smithy,
  Unit 1, Church Farm,
  Hatley St. George,
  nr Sandy, Beds.
  0767 51481
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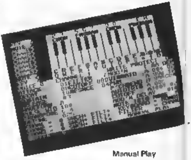


Manual Play mode on Electrosound.

Font Factory

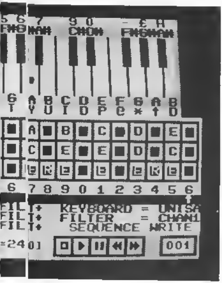
New from *Impex Software* comes **Font Factory**, a program that lets you enhance printing with the Commodore 1525 and MPS 801 printers It gives you a choice of font styles (some with true descenders) and the facility to design and save your own. The program also includes Signwriter-64, a large-letter program — that uses only one font. The whole lot comes on disk only, for £19 95.

To cut costs, Impex doesn't supply an instruction book. Yes, it's on the disk and you have to print it out — the result looks something like a toilet roll advert. This task takes about an hour, thus highlighting one of Font Factory's problems. The characters it prints are actually user-defined graphics; it can take up to four or five passes of the head to print a single line.

Having created your document, you load the fonts you need. Eight are already supplied (gothic, future, byte, roman, micro, bold, descender and grand), but you can hold up to 14 in memory at the same time, including any you've designed yourself. Designing fonts is rather like using a sprite editor — a grid in which you move a pointer around to set or unset the pixels

Printing files is straightforward, but only if they were saved as 'sequential' files Most WP packages (like Easyscript) do this but there are exceptions, Vizawrite for example, which saves text as 'program' files.

Another snag is that to get the most out of Font Factory, you must embed its own commands in the text. If your file already contains embedded commands used by your WP package, Font Factory will print them out. So you must configure text specifically to be printed by Font Factory.



FILT+ KEYBOARD = UNISA
FILT+ FILTER = CHAN1
FILT+ SEQUENCE WRITE

I was enthusiastic when I first heard about Font Factory. Now that I've used it for a few days I'm getting rather disappointed. The reason is not the facilities offered but the laborious method of using them — you've got to have plenty of spare time. If you must have fancy fonts and descenders on your Commodore printer, Font Factory works well — but it's not recommended for the impatient.

Chris Durham

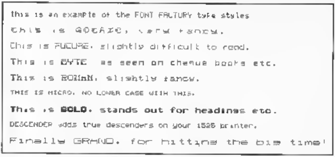
- Font Factory
- Impex Designs,
  Metro House,
  Second Way,
  Wembley, Middx
  HA9 0TY
  01-900 0999
- Price: £19.99 (disk)

Shado BBC Emulator

The BBC micro has one of the best BASICs available on a home computer. However, most people would agree that the Commodore 64's BASIC is pretty terrible. Doesn't it seem reasonable to amend this situation? *Aztec Software* certainly think so, and have produced **Shado**, to emulate BBC BASIC on the Commodore and provide an 80 column screen display.

To begin with, don't try to pick up Shado, type in a BBC BASIC program, and expect it to work. Shado falls far short of being a true BBC emulator: it merely substitutes a number of BBC BASIC commands for normal Commodore 64 BASIC.

The first problem you're likely to encounter is the lack of the BBC's eight screen modes. Mode 0 is the 80 column text and graphics modes. Modes 1 to 6 are a mixture of text and graphics, with mode two being the most popular, having a sixteen colour palette available (eight and eight flashing, though changeable). Finally, Mode 7 is the most used, containing teletext text and block graphics, in eight colours, using only 1K of memory.



this is an example of the FONT FACTORY type styles

This is GOTHIC, very fancy.

This is FUTURE. slightly difficult to read.

This is BYTE as seen on cheque books etc.

This is ROMAN. slightly fancy.

THIS IS MICRO. NO LOWER CASE WITH THIS.

This is BOLD. stands out for headings etc.

DESCENDER adds true descenders on your 1525 printer.

Finally GRAND. for hitting the big time!

Examples of Font Factory's built-in font styles.

Shado only supports two of these modes, namely zero and one. Mode zero gives a readable 80-column display and graphics, whilst mode one produces 40-column text — no four-colour medium-resolution graphics, as should be available. You also have difficulty fitting the standard 32-line BBC screens onto the 25 lines available.

Other "not included" items included the @% variable, which is used for formatting numerical output. DIMensioning arrays is implemented, but not for byte arrays (eg DIM × 255) and the documentation for DIM is wrong. Even with the superior sound chip available in the Commodore 64 Aztec haven't attempted to implement the ENVELOPE command.

Few of the VDU commands will work, including user defined graphics, text and graphics windowing, and logical colour changing only affects the screen, not the palette. Changing the background colour using COLOUR immediately changes the entire screen colour, which should only occur after a CLS command, otherwise just the printed areas should have the new background.

Further problems include different character sets, where the BBC symbols for backslash, underline, pound sign and only brackets are incorrect, COLOUR works, but changing just the background colour immediately affects the whole screen. The ELSE of an IF . . . THEN   ELSE Line requires a preceding colon. AUTO line numbering incorrectly allows you to continue beyond line 32767. Even command abbreviations, such as 'L', for LIST give different results.

Strangely, the programmers seemed to have spent much more effort trying to achieve BBC-like operation on some of the infrequently used commands. For instance, ADVAL (Analogue-to-Digital VALue), which is typically used on the BBC to check the state of a joystick, has been implemented in Shado. It doesn't work in exactly the same way, but does give results. Whereas with CALL (accessing machine-code), they obviously haven't implemented true 6502 operation with BBC vectors and so on, but could nevertheless have implemented the command to allow users to access machine code.

SHADO
BBC EMULATOR SOFTWARE
SHADO

I finally threw in the towel on this package, when escaping (RUN/STOP) out of a program which hadn't worked as it was supposed to, I was faced with a "Too many REPEATs" error message. Whatever I typed, every time I pressed RETURN, I got this message!

I can only think of two reasons why anybody would want to buy a BBC BASIC emulator. Either they want to be able to enter BBC BASIC programs, possibly because they're using a BBC micro at school, or as an alternative to such extension packages as Simon's BASIC.

In the later case, buying a package designed to make use of the Commodore's facilities, rather than attempting to copy those available on another micro, will be much more useful. If, on the other hand, you want to be able to use BBC programs on the Commodore 64, then this package is unlikely to be able to help you, due to the very limited emulation possible.

I'm a great believer in BBC BASIC, and tend to use it in preference to all others, including the QL. A more comprehensive emulator would, therefore, have scored very highly in my books. Somebody has spent a lot of time and money producing Shado. What a pity they didn't do the job properly.

Marcus Jeffery

- Shado BBC Emulator
- Aztec Software
  c/o Micro Dealer UK
  0462 37171
- Price: £14.95 (cass)

The Final Cartridge

With a name like **The Final Cartridge**, you'd expect this device to cram in a lot of facilities. It's a fast load and save system, a printer interface, has toolkit and extra DOS commands, a monitor, and it activates the 64's function keys. It's made by H and P Computers of Rotterdam and is available in the UK for £50.

The Final Cartridge looks like any other cartridge except for a reset button and a switch that lets you disable the device without unplugging it. Inside, there's a 16K ROM that gives you no extra storage memory for Basic. However it does have memory read and write commands that let you copy 193 bytes at a time of the 64's memory — you have to specify the source-start and destination start addresses.

Function keys are customised for commands like LIST, RUN, DLOAD, DSAVE, DISK and CATALOG. The latter gives a disk directory without overwriting whatever's in memory. DISK reads the disk drive error channel without having to OPEN first.

Both DLOAD and DSAVE dispense with the ,8 suffix and work about five times faster than normal. The cartridge also supports turbo SAVE to cassette

THE FINAL CARTRIDGE
(c) 1985 HOME & PERSONAL COMP
3083 MT ROTTERDAM Holland
010 23 19 82

A cartridge for all reasons

Here's a few results. a 29K program loaded on disk in 16 seconds (77 seconds on the 1541) and on tape in 67 seconds (585 seconds normally).

There's a whole range of toolkit commands too, such as AUTO and RENUmber. FIND lists all the lines that match a given string, command or variable. HELP lists the last line executed (useful for trapping errors), whilst APPEND and DAPPEND append a Basic program to a previously loaded one — line numbers are not altered. Finally, the OLD command recovers a Basic program. All these commands can be abbreviated in the usual way.

Typing MONITOR (not surprisingly) gets you into the machine-code monitor utility whose syntax is rather like Superman. One unique command, quoted as a bank switching command, lets you switch off the Basic and Kernal ROMs and return to them, when you leave the monitor, without crashing.

Finally, there's the Centronics interface (the cable costs £8 extra). Using the interface in direct mode, it worked correctly with the secondary addresses in the OPEN command when tested with an Epson printer. It also worked with both Easyscript and Superscript. Superbase 64 did not work with the cartridge enabled. The interface can also handle screen dumps when used with printers that have Bit Map Mode, shades of grey representing a multi coloured screen. An inverse image can also be obtained.

Is the Final Cartridge value for money? If you consider that you get a fast load and save system, a Centronics interface, monitor, toolkit commands and functioning Function keys, the answer must be a resounding yes — that's if you needed the whole lot anyway.

David Chastney-Parr

- The Final Cartridge
- George Lloyd
  9 Hornbeam Walk,
  Witham, Essex.
  0376 511471
- Price: £50
  (printer cable £8 extra)

Tasword features three help screens accessible from the function keys.

Tasword 64

There's so many good 64 word processors around, that a new package has to be pretty special to get noticed. **Tasword 64**, from *Tasman Software*, has those qualifications: it gives the 64 an 80-column text display without a hardware add-on (40 columns are optional), and you pay only £17.95 on tape and £19.95 on disk. Tasword has already made a name for itself on the Spectrum and Amstrad machines.

Tasword formats text on screen so that what you see is what appears on the printed page. And what you see is pretty good considering the 64 was intended only for 40-column use. Admittedly 80-columns are a little hazy on a TV set but become very readable on a monitor. In any case, you can always toggle to 40-columns.

The package provides all the features you'd expect. it's menu driven, has good screen editing, wordwrap, paging, right and left justification, block move and copy, search and replace, tabs and margins, page headers and footers, and page numbering. You can also change screen colour combinations to suit your eyes.

A lot of attention has been paid to letting you customise the package for different printers. The defaults obviously apply to Commodore machines but the device number can be changed to implement the built-in Centronics interface. My Epson RX-80 worked without problem.

Similarly, there's the facility to change the ASCII values of control codes used for embedded text commands — things like italic, underline and double-strike. Just look the values up in the printer manual, key them in and off you go. The same applies to changing values for, say the £ sign, which has no standard value.

Nearly all the editing and control functions in Tasword are performed using CTRL and another key. There's often no logical connection between a key and its function so you need to learn a lot of them to be able to work quickly. Luckily, there's a set of HELP screens that summarise all commands. Like the directory display, existing text is not scrubbed when you call them up.

The Tasword manual was not yet ready at time of review, but Tasman says it will be a comprehensive and easy to digest affair and will contain a tutorial section. Certainly the HELP screens (with two careless exceptions) provide sufficient information in their own right.

To sum up. Tasword is a pretty unique product. It's 80-column display is well readable and backed up by a well thought out program that really can hold its own in professional use. On top of that, it's very cheap.

Bohdan Buciak

Hey presto! 80 columns with Tasword

- Tasword 64
- Tasman Software
  Springfield House,
  Hyde Terrace,
  Leeds LS2 9LN
  0532 438301
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  £19.95 (disk)

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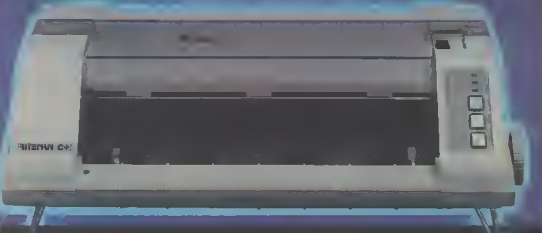

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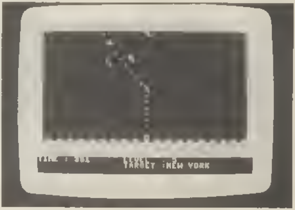
Satellite Invasion — for the Commodore 64

by Simon Jay

Not just a boring old shoot 'em up game — this one's inventive and original. Using your laser, you must destroy the invading rocket satellite. Trouble is, it shoots only one way. So you must place mirror satellites (up to three) in strategic positions to deflect the beam. Easy? You must be joking.

Full instructions appear on the screen — but you'll need a joystick.



```
1 REM ********************
2 REM *SATELLITE INVASION*
3 REM *BY SIMON JAY      *
4 REM *ON THE CBM 64     *
5 REM ********************
6 POKE53281,0
7 POKE54296,0
8 GOSUB5000
9 DA$=""
10 PRINT"[CLS]":AA=20:BB=1:MI=66:Z=0:KL=0:T=0
15 READDA$
16 PRINT"[HOM][23CD][16CR]LEVEL[2SPC]:";LV
17 PRINT"[16CR]TARGET :";DA$
20 PRINT"[HOM][REV][40SPC][OFF]";
30 FORJ=1TO20:PRINT"[REV] [OFF][38SPC][REV] [OFF]";:NEXTJ
40 PRINT"[REV][40SPC][OFF]"
50 FORJ=55296TO56095:POKEJ,1:NEXT
60 FORJ=56136TO56295:POKEJ,6:NEXT
70 FORJ=1825TO1862:POKEJ,102:NEXT
80 FORJ=1785TO1822:POKEJ,104:J=J+1:POKEJ,102:NEXT
90 POKE1804,86:POKE1764,113:FOKE1803,121:POKE1805,121
95 A=INT(34*RND(1))+5
96 B=5
100 REM *READ KEYBOARD*
105 PRINT"[HOM][22CD]TIME :";T:IFT=LTTHEN1000
106 T=T+1
110 REM *PUT SATELLITE ON SCREEN*
120 POKE1024+A+40*B,127
130 POKE1024+AA+40*BB,M1
135 POKE1024+A+40*B,32
136 POKE1024+AA+40*BB,32
140 M=INT(100*RND(1))+1
150 IFM=25THENA=A+1
160 IFM=50THENA=A-1
170 IFA=0THENA=A+1
180 IFA=39THENA=A-1
```

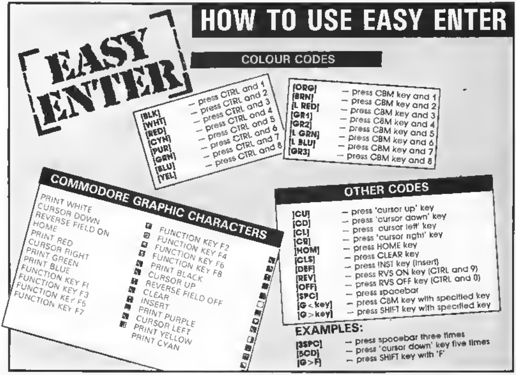
EASY ENTER SEE PAGE 54

WE WANT
YOUR
PROGRAMS

```
190 IFM=75THENB=B+1
200 IFM=100THENB=B-1
210 IFB=0THENB=B+1
220 IFB=17THENB=B-1
230 FR=INT(LT*RND(1))+1
240 IFFR=30THEN800
300 REM *MOVE MIRROR*
305 PE=PEEK(56320)
310 IFPE=119THENAA=AA+1:MI=78
320 IFPE=123THENAA=AA-1:MI=77
330 IFAA=0THENAA=AA+1
340 IFAA=39THENAA=AA-1
350 IFPE=126THENBB=BB-1:MI=119
360 IFPE=125THENBB=BB+1:MI=100
365 IFPE=111THENPOKE1024+AA+40*BB
,MI:AA=20:BB=1:Z=Z+1:IFZ=3THEN400
370 IFBB=0THENBB=BB+1
380 IFBB=17THENBB=BB-1
390 GOTO100
400 REM *FIRE LASER*
405 KL=46:POKE1024+A+40*B,127
410 C=20:D=17:LB=-1:LA=0
415 FORL=1TO50
420 POKE1024+C+40*D,KL
440 C=C+LA
450 IFC=0ORC=39THEN610
500 D=D+LB
510 IFD=0THEN610
511 IFD=20THEN600
515 POKE54296,15:POKE54276,0:POKE54277,1:POKE54273,30:POKE54276,17
520 IFPEEK(1024+C+40*D)=77THENLA=-1:GOTO440
530 IFPEEK(1024+C+40*D)=78THENLA=+1:GOTO440
535 IFPEEK(1024+C+40*D)=127THEN700
540 IFPEEK(1024+C+40*D)=100THENLB=+1:GOTO500
545 IFPEEK(1024+C+40*D)=119THENLB=-1:GOTO500
550 IFPEEK(1024+C+40*D)=113THEN1000
560 IFPEEK(1024+C+40*D)=86THEN1000
570 IFPEEK(1024+C+40*D)=121THEN1000
590 NEXTL
600 REM *TURN OFF LASER*
605 POKE54296,15:POKE54276,0:POKE54277,154:POKE54273,4:POKE54276,129
610 IFKL=32THENZ=0:POKE1024+A+40*B,32:GOTO200
620 KL=32
630 GOTO410
700 REM *DESTROY SATELLITE*
710 POKE54296,15:POKE54276,0:POKE54277,190:POKE54276,129
720 FORK=15TO0STEP-1
730 POKE1024+A+40*B,32
740 FORJ=10TO1STEP-1:POKE54273,J:NEXT
750 POKE53280,K:POKE54296,K
760 POKE1024+A+40*B,42:POKE55296+A+40*B,K
770 NEXTK
780 GOTO2000
800 REM *SATELLITE FIRES*
805 FOKE1024+A+40*B,127
810 OB=+1:K=A:L=B:L=L+1
815 Q=INT(2*RND(1))+1
816 IFQ=1THENPB=+1
817 IFQ=2THENPB=-1
820 POKE1024+K+40*L,46
```

```
830 POKE1024+K+40*L,32
840 L=L+OB
841 IFL=0ORL=20THEN900
845 K=K+PB
846 IFK=0ORK=39THEN900
850 IFPEEK(1024+K+40*L)=113THEN1000
860 IFPEEK(1024+K+40*L)=86THEN1000
870 IFPEEK(1024+K+40*L)=121THEN1000
890 GOTO820
900 POKE54296,15:POKE54276,0:POKE54277,154:POKE54273,4:POKE54276,
    129:GOTO100
1000 REM *YOUR DEAD*
1100 FORJ=15TO0STEP-1
1200 POKE53281,J
1300 POKE54296,J:POKE54276,0:POKE54277,192:POKE54276,129
1310 FORH=1TO10:POKE54273,H:NEXT
1320 NEXTJ
1330 POKE1804,32:POKE1764,32
1340 PRINT"[HOM][2CD] YOUR BASE IS DESTROYED."
1350 PRINT"[CD] ";DA$;" IS LOST . "
1360 PRINT"[CD] YOU LASTED ";T
1361 IFT=LTTHENPRINT"[CD] YOU RAN OUT OF TIME."
1365 PRINT"[CD] LEVEL[6SPC]";LV
1370 PRINT"[CD] ANOTHER GO (Y/N) "
1380 GETA$
1390 IFA$="Y"THENRUN
1400 IFA$="N"THENPRINT"[CLS]":END
1410 GOTO1380
2000 REM *YOU WON*
2100 PRINT"[HOM][2CD] WELL DONE YOU SAVED ";DA$
2200 PRINT" [CD]YOU DESTROYED THE ENERMY IN"
2300 PRINT" [CD]THE TIME OF ";T
2310 IFDA$="MONTREAL"THENPRINT" [CD]THE WORLD OWES YOU ONE....."
     :GOTO2400
2350 FORM=1TO5000:NEXT:GOTO10
2400 GOTD1370
5000 REM *INSTRUTIONS*
5100 PRINT"[CLS][REV]SATELLITE INVASION[OFF]"
5200 PRINT"--------------------"
5300 PRINT" IN THIS GAME YOU ARE IN CONTROL OF"
5400 PRINT"AN EARTH LASER,THE MAIN COMPUTER WHICH"
5500 PRINT"PIN POINTS THE TARGETS TO DESTROY"
5600 PRINT"HAS BEEN DESTROYED.DURING REPAIRS"
5700 PRINT"AN AIR TO AIR ROCKET SATELLITE HAS BEEN"
5800 PRINT"DETECTED,IT CARRIES THE MOST POWERFUL"
5900 PRINT"MISSILES KNOWN TO MAN.YOUR JOB IS TO"
6000 PRINT"SAVE THE BASE AND THE WORLD "
6100 PRINT"BY USING ONLY THE MAIN LASER."
6200 PRINT
6300 PRINT"THE LASER WILL ONLY FIRE IN ONE "
6400 PRINT"DIRECTION,USING SMALLER SATELLITES"
6500 PRINT"WITH MIRRORS,YOU CAN GUIDE THE LASER"
6600 PRINT"IN ANY DIRECTION,TO DESTROY THE ENEMY."
6700 PRINT
6800 PRINT"PORT 2:-"
6900 PRINT" JOYSTICK[4SPC]= UP[4SPC]/ MIRROR ' [G<Y] ' "
7000 PRINT" JOYSTICK[4SPC]= DOWN[2SPC]/ MIRROR ' [G<@] ' "
7100 PRINT"[CD] JOYSTICK[4SPC]= LEFT[2SPC]/ MIRROR ' [G>M] ' "
7200 PRINT" JOYSTICK[4SPC]= RIGHT / MIRROR ' [G>N] ' "
7300 PRINT" JOYSTICK[2SPC]FIRE TO KEEP POSITION[3SPC]"
```

```
7400 GOSUB9300
7500 PRINT"[CLS]"
7600 PRINT" YOU ARE ALLOWED THREE MIRROR SATELLITES";
7700 PRINT"PER TRY,BUT MORE ARE COLLECTED DURING"
7800 PRINT"THE GAME.TO ERASE AN MIRROR,OVERLAP IT"
7900 PRINT"WITH A MIRROR GUIDED BY JOYSTICK."
8000 PRINT"WATCH THE ENEMY ROCKETS,IT WILL TRY TO"
8100 PRINT"DESTROY YOUR MIRRORS AND GROUND LASER."
8200 PRINT:PRINT
8300 PRINT"[CD][7SPC][G<B][2SPC]- SATELLITE"
8400 PRINT"[CD][7SPC][G +][2SPC]- EARTH[4SPC]"
8500 PRINT"[CD][7SPC][G<E][13SPC]"
8600 PRINT"[6SPC][G<O][G>V][G<D] - YOU LASER"
8700 PRINT"[2CD]INPUT LEVEL"
8800 PRINT"[CD](1-5)[7SPC]"
8900 INPUT"[CD]";LV
9000 IFLV<1ORLV>5THEN8900
9100 IFLV=1THENLT=30
9110 IFLV=2THENLT=60
9120 IFLV=3THENLT=120
9130 IFLV=4THENLT=240
9140 IFLV=5THENLT=480
9200 RETURN
9300 PE=PEEK(56320)
9400 IFPE=111THEN9999
9998 GOTO9300
9999 RETURN
10000 DATANEW YORK,PARIS,DALLAS,MIAMI,MONTREAL
```



HOW TO USE EASY ENTER

EASY ENTER

COLOUR CODES

[BLK]	— press CTRL and 1
[WHT]	— press CTRL and 2
[RED]	— press CTRL and 3
[CYN]	— press CTRL and 4
[PUR]	— press CTRL and 5
[GRN]	— press CTRL and 6
[BLU]	— press CTRL and 7
[YEL]	— press CTRL and 8

[ORG]	— press CBM key and 1
[BRN]	— press CBM key and 2
[L RED]	— press CBM key and 3
[GR1]	— press CBM key and 4
[GR2]	— press CBM key and 5
[L GRN]	— press CBM key and 6
[L BLU]	— press CBM key and 7
[GR3]	— press CBM key and 8

COMMODORE GRAPHIC CHARACTERS

PRINT WHITE
CURSOR DOWN
REVERSE FIELD ON
HOME
PRINT RED
CURSOR RIGHT
PRINT GREEN
PRINT BLUE
FUNCTION KEY F1
FUNCTION KEY F3
FUNCTION KEY F5
FUNCTION KEY F7
FUNCTION KEY F2
FUNCTION KEY F4
FUNCTION KEY F6
FUNCTION KEY F8
PRINT BLACK
CURSOR UP
REVERSE FIELD OFF
CLEAR
INSERT
PRINT PURPLE
CURSOR LEFT
PRINT YELLOW
PRINT CYAN

OTHER CODES

[CU]	— press 'cursor up' key
[CD]	— press 'cursor down' key
[CL]	— press 'cursor left' key
[CR]	— press 'cursor right' key
[HOM]	— press HOME key
[CLS]	— press CLEAR key
[DEF]	— press INST key (insert)
[REV]	— press RVS ON key (CTRL and 9)
[OFF]	— press RVS OFF key (CTRL and 0)
[SPC]	— press spacebar
[G<key]	— press CBM key with specified key
[G>key]	— press SHIFT key with specified key

EXAMPLES:

[3SPC]	— press spacebar three times
[5CD]	— press 'cursor down' key five times
[G>F]	— press SHIFT key with 'F'

Crazy Maker — for the Commodore 16

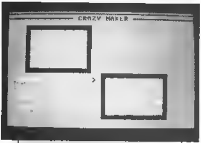
by David Goodfellow

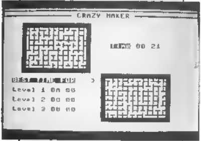
Calling all puzzle-freaks — not just one but three puzzles to turn you into a raving lunatic. You have to match the design in the top screen by manipulating the eight lines in the bottom screen. Move the lines using the right/left cursor keys and go up and down the liens with the vertical keys. Test your friends' skill with the 'best time' facility.

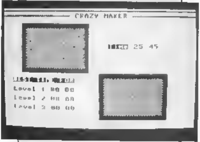
When you've cracked the 'go mad' screen, move up to 'go crazy' and (if you're nerves can stand it) to 'go bonkers' — and you probably will.

```
10 DIMA(7),B(7),C(2)
20 FORI=819 TO 864 READM CH=CH+M POKEI,M
 NEXT IFCH<>9695THENPRINT"DATA ERROR" EN
D
30 COLOR1,7,3 COLOR0,3,5 VOL6 PRINTCHR$(
5
40 P$(1)="000000" P$(2)="000000" P$(3)="
000000"
50 PRINT"L" PRINTCHR$(14
60 FORI=1TO7 READA(I) NEXT
70 FORI=1TO68 X=INT(RND(0)*7)+1 A$=A$+CH
R$(A(X)).NEXT
80 FORI=1TO7 READB(I) NEXT
90 FORI=1TO68 X=INT(RND(0)*7)+1.B$=B$+CH
R$(B(X)) NEXT
100 FORI=1TO2 READC(I) NEXT
110 FORI=1TO68 X=INT(RND(0)*2)+1 C$=C$+C
HR$(C(X)) NEXT
120 GOSUB430
130 GOSUB660 GOSUB650 PRINT"L" PRINT"■■
■"
140 FORN=1TO8 P1(N)=INT(RND(1)*56)+1.PRI
NTTAB(5)CHR$(Z)MID$(D$,P1(N),12) NEXT
150 PRINT PRINT
160 FORN=1TO8 P2(N)=INT(RND(1)*56)+1 PRI
NTTAB(21)CHR$(Z)MID$(D$,P2(N),12) NEXT
170 GOSUB670
180 LC=1 TI$="000000"
190 GETM$ M=ASC(M$
200 IFM=145THEN260
210 IFM=157THEN300
220 IFM=17THEN280
230 IFM=29THEN320
240 M$=""
250 POKE205,6 PRINT PRINTTAB(22)"■ IME■
 "MID$(TI$,3,2)" "MID$(TI$,5,2) GOTO190
260 POKELN,32 LN=LN-40 LC=LC-1 IFLN<3650
THENLN=3650 LC=1
270 POKELN,62 GOTO190
280 POKELN,32 LN=LN+40 LC=LC+1 IFLN>3930
THENLN=3930 LC=8
290 GOTO270
300 POKE205,12+LC PRINT P2(LC)=P2(LC)+1
IFP2(LC)>56THENP2(LC)=56
310 GOTO330
320 POKE205,12+LC PRINT P2(LC)=P2(LC)-1
IFP2(LC)<1THENP2(LC)=1
330 PRINTTAB(21)CHR$(Z)MID$(D$,P2(LC),12

340 FORX=1TO8 IFP1(X)<>P2(X)THEN190
350 NEXT POKELN,32
360 IFP$(J)="000000"THENP$(J)=TI$
```







```
370 IFTI$<R$(J)THENR$(J)=TI$
380 FORI=1TO3 SOUND1,810,50 SOUND2,900,1
0 SOUND2,800,10 SOUND2,900,20 NEXT
390 GOSUB670
400 POKE205,4 PRINT PRINTTAB(25)"♠. "
410 POKE205,8 PRINT PRINTTAB(25)"'‾ "
420 GETKEYK$ GOSUB450 GOTO130
430 PRINT"───────────────────────────────────
──────────"
440 PRINT"─────────────── ‾_♠♠| ♠'‾_ ───
──────────"
450 POKE241,124 POKE242,12 SYS819 SYS853
460 POKE241,28 POKE242,14 SYS819
470 GOSUB650
480 PRINT" ┐_‾♥♥ . ‾| 1 |‾ 3"
490 PRINT"─────────────────────"
500 PRINT"1. TO BE MAD."
510 PRINT"2. TO GO CRAZY."
520 PRINT"3. TO GO BONKERS."
530 COLOR4,1 GETK$ IFK$=""THENFORI=1TO10
0 NEXT COLOR4,5 GOTO530
540 K=VAL(K$) IFK<1ORK>3THEN530
550 IFK=1THEND$=A$ Z=153 J=1 GOTO580
560 IFK=2THEND$=B$ Z=30 J=2 GOTO580
570 D$=C$ J=3 Z=144
580 PRINT"USE →_♥‾_ KEYS" PRINT"TO M
ATCH THE TWO" PRINT"PATTERNS AS FAST"
590 PRINT"AS POSSIBLE"
600 PRINT""
610 GOSUB660 POKE205,15 PRINT PRINT"
♠'- KEY" PRINT"TO" PRINT"CO
NTINUE"
620 LN=3650 POKELN,22
630 GETKEYK$
640 RETURN
650 PRINT""TAB(20)CHR$(27)"T" PRINT"
"TAB(32)CHR$(27)"B" RETURN
660 POKE205,13 PRINT FORI=1TO10 PRINT"
                  " NEXT RETURN
670 POKE205,13 PRINT
680 PRINT"|‾♥ |.‾ _‾_" PRINT"LEV
EL 1 "MID$(R$(1),3,2)" "MID$(R$(1),5,2)
690 PRINT"LEVEL 2 "MID$(R$(2),3,2)"
"MID$(R$(2),5,2)
700 PRINT"LEVEL 3 "MID$(R$(2),3,2)" "
MID$(R$(3),5,2) RETURN
710 DATA162,0,160,0,169,160
720 DATA145,241,200,192,14,208
730 DATA247,232,224,10,240,15
740 DATA165,241,105,40,133,241
750 DATA165,242,105,0,133,242
760 DATA76,53,3,96,169,0
770 DATA133,241,169,10,133,242
780 DATA160,0,169,5,145,241
790 DATA230,241,208,2,230,242
800 DATA165,241,201,255,165,242
810 DATA233,11,208,236,96,0
820 DATA162,163,175,176,183,184,185
830 DATA171,176,177,178,179,189,219
840 DATA169,223
```

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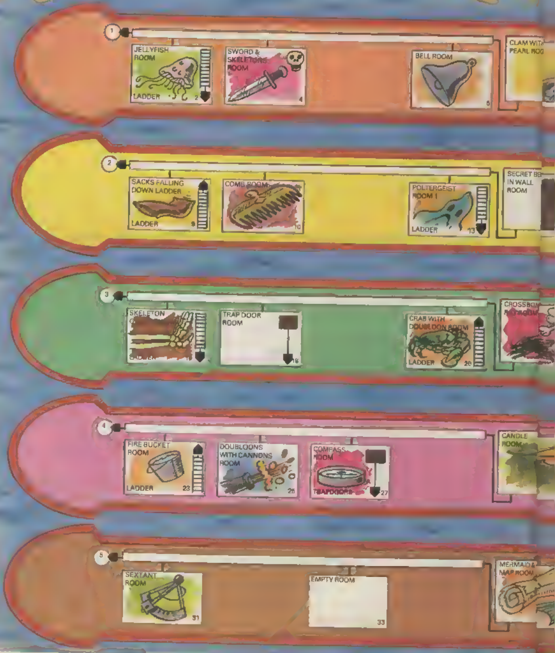


1
JELLYFISH ROOM
LADDER 2
SWORD & SKELETONS ROOM
4
BELL ROOM
6
CLAM WIT
PEARL ROO
2
SACKS FALLING DOWN LADDER
LADDER 9
COMB ROOM
10
POLTERGEIST ROOM 1
LADDER 13
SECRET BE
IN WALL
ROOM
3
SKELETON
LADDER
TRAP DOOR ROOM
16
CRAB WITH DOUBLOON ROOM
LADDER 20
CROSSBO
4
FIRE BUCKET ROOM
LADDER 23
DOUBLOONS WITH CANNONS ROOM
25
COMPASS ROOM
TRAPDOORS 27
CANDLE ROOM
5
SEXTANT ROOM
31
EMPTY ROOM
33
MERMAID &
MAP ROOM

Help is at hand in Ultimate's latest toughie.

Sir Arthur Pendragon begins his latest quest between rooms 4 and 6. First get the sword in room 4 then tap the bell in room 6 with it. This will boost your energy. Finding doubloons will have the same effect.

Use the seaweed in room 31 to get the pearl in room 1. This gives immunity from the screaming siren in room 8. The skull found here and the crossbones found in room 21 should be placed on the flag in room 1 — making it rise to reveal a key. This unlocks a compartment in the cupboard in room 15 where a book is hidden. Striking the wall with the sword at the indicated point in room 14 reveals a bell. Use this bell, the candle from room 29, and the book from room 15 to get rid of the Ghost Pirate in room 2.

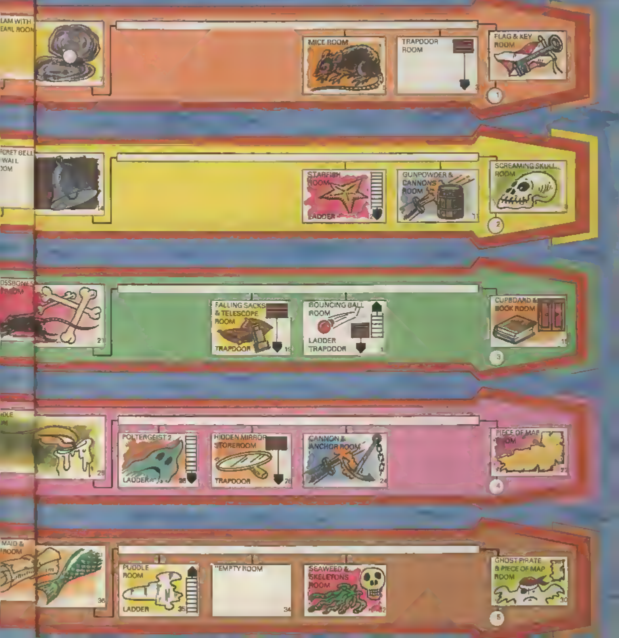
Get the gunpowder from room 11 and go to the cannon in room 24. A ball will shoot out upon touching the cannon smashing a barrel to reveal a heavy anchor. Take this to room 10 and move straight to the chain from the door, as you approach it the anchor pulls the chain up to you. Now take this to the mermaid. You will also have to give her the mirror obtained from room 26 by hitting the sack with your sword to make her give you another piece of the map.

To put out the fire in room 23 get the bucket and stand in the puddle in room 35 — then walk back through the fire.

To get the piece of map in room 22 get the telescope in room 19, compass room 27, sextant room 32 and simply walk up to the map.

Dodging the nasties

Always walk on the furthest edge of the 3rd plank — this puts you out of range of the rolling cannonballs. To clear all the nasties from a screen dodge into a door and back out again.


LAM WITH
EARL ROOM
7
MICE ROOM
5
TRAPDOOR
ROOM
3
FLAG & KEY
ROOM
1
CRET BELL
WALL
OM
14
STARFISH
ROOM
LADDER
2
GUNPOWDER &
CANNONS
ROOM
11
SCREAMING SKULL
ROOM
8
2
OSSBONES
ROOM
21
FALLING SACKS
& TELESCOPE
ROOM
TRAPDOOR
19
BOUNCING BALL
ROOM
LADDER
TRAPDOOR
17
CUPBOARD &
BOOK ROOM
15
3
DLE
M
29
POLTERGEIST 2
LADDER
28
HIDDEN MIRROR
STOREROOM
TRAPDOOR
26
CANNON &
ANCHOR ROOM
24
PIECE OF MAP
ROOM
22
4
MAID &
ROOM
36
PUDDLE
ROOM
LADDER
35
"EMPTY ROOM
34
SEAWEED &
SKELETONS
ROOM
32
GHOST PIRATE
& PIECE OF MAP
ROOM
30
5

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AVENUE, HIGH WYCOMBE,
BUCKS HP13 [illegible]
[illegible]

ENHANCER
2000

Enhance your drive

The Enhancer 2000 reviewed

by Fred Reid

The 1541 has had it too good for too long — there's just no alternative to it if you want to run 64 disks. That situation's changing with the arrival of the American-built Enhancer 2000, which claims to behave just like the 1541 itself.

Until now, choosing a disc drive for your 64 was simply a matter of buying Commodore's 1541 disc drive, or going for one of the many devices that can't run the 64's 5.25 inch disks. Faced with that choice, the decision is clear cut. An American company called Comtel aim to change all that with the **Enhancer 2000**, a truly 64-compatible drive that goes a long way towards emulating the 1541.

Good looks

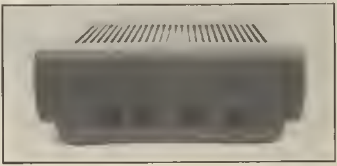
The Enhancer is physically smaller than the 1541, about half its size and considerably lighter. That's mainly due to it's separate powerpack. Having the hefty power supply outside the drive's case helps to prevent overheating as well as keeping the drive down to sensible dimensions.

The actual drive unit inside the Enhancer is manufactured by Chinon Industries in Japan, and features a direct drive motor — the 1541 is belt driven, although I can't see much advantage there (one less part to wear out). At least, the Enhancer is a little quieter when running.

Physically, Enhancer differs from the 1541 in several ways: The 1541 has two indicator lamps (red and green) on it's front panel, where as Enhancer has an additional yellow lamp. On the 1541, the red lamp indicates 'drive active' when on continuously, and 'error' when it flashes. The yellow lamp on Enhancer behaves in exactly the same way. Enhancer's red lamp indicates that the disc is spinning, and in both cases the green light shows that the drive is switched on.

The other main difference is the door and eject mechanism. The 1541's door inspires little confidence (mine actually wore out), and the eject mechanism is temperamental. Enhancer's door feels a lot nicer to use, and on closer inspection proved to be a much better design altogether.

Internally, Enhancer appears well put together, with a pair of removable jumpers to permanently change the device number



(essential if you are using two drives). The same operation on the 1541 involves cutting bits of track (a bit too permanent for my liking).

Enhancer's rear-end proves no more interesting than the 1541's. A pair of serial connectors (cable supplied) for connecting to the 64, other disc drives and printers, a power socket that connects to the powerpack and an on-off switch. The only thing missing here is a fuse!

Using the Enhancer

Perhaps the biggest attraction is the Enhancer's speed — up to 40% faster than the 1541 (see table). As far as compatibility is concerned, Enhancer has a few quirks. By far the biggest bug causes any disc operation (Load, Save, print # etc.) to crash if there are sprites on the screen. Disabling the sprites is a simple matter if it's your own pogram, but what if a piece of commercial software were to provide an animated display using sprites while loading?

Out of the fourteen games and utilities we tried, three of them refused to load at all and one only loaded when it felt like it! Wouldn't you just kick yourself if you'd just spent £30 on the latest mega game only to find it won't work with the Enhancer? A Comtel spokesman agreed. "There are several programs that won't work with Enhancer, but we're working on it."

Enhancer's DOS (Disc Operating System) has a couple of extras, formatting takes only 20 seconds (80 seconds on the 1541), and extra commands allow you to 'lock' a file (prevent it from being accidentally scratched), write-protect a disc, and slow down to 1541 speed. Mind you, they've taken out the Block Execute command that some sophisticated protection systems use, and that could cause untold compatibility problems in the future.

If you still find the Enhancer a bit on the slow side, you can make it go even faster by selecting Vic-20 speed and blanking the screen before loading, but you can do this with the 1541 anyway (so you didn't know that?)

User information

Enhancer's manual is bascially a re-hash of the 1541's manual, but with some of the errors taken out. The manual covers all aspects of normal use and explains each command in turn. A full list of the error codes is included, together with an explanation of each one.

Enhancer comes with a free disk containing some demonstration software, a test program that exercises your drive and reports on the state of it's health, and several other simple utilities.

Conclusions

To sum up, the Enhancer 2000 is a very attractive little disk drive, well presented and adequately documented. But I'm not at all convinced that it is fully compatible with 1541 format software, indeed I can't see how Enhancer can be 100% compatible without infringing Commodore's copyright on the 1541 DOS. Still, Enhancer's speed makes it an attractive proposition, especially since Vulcan, the company distributing it in the UK is proposing to undercut Commodore's price for the 1541. ☐

1541/Enhancer speed comparison

Title Loaded:	1541 Time	Enhancer Time:
Pooyan	1.10	DNL
Raid Over Moscow	2.25	1.41
Spitfire 40	2.24	1.41
Solo Flight	1.54	1.19
Aztec Challenge	1.17	0.52
Archon	1.50	1.16
One-On-One	1.43	1.12
Summer Games 1	1.07	DNL
Infomaster	1.52	1.20
Superscript	1.59	1.28
Colossus Chess	2.01	1.24
Flight Simulator II	3.30	DNL
M U L E	1.30	1.06
Bruce Lee	3.05	2.53

Notes: DNL = Did Not Load
All times in minutes and seconds

- Enhancer 2000
  1541-compatible disk drive
- Vulcan Electronics
  200 Brett Street
  Hendon, London NW4
  01-203 6366
- Price: £150 (approx)

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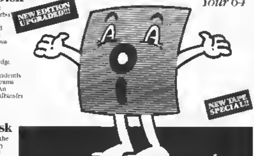

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HOT SHOTS!

Ultimate car for Ultimate's success. But why the ironing board on the back?

Once again, by popular demand, the column that stirs storms in tea cups heeeerrres Hotshots!

I have some very disturbing news to report first I have been ripped off Who's dun it, you cry Big bully *Your Computer*, that's who A Hotshot ophile came rushing over to see me with the offending issue I nearly burst into tears "Send in your secrets, high scores and maps to Hot Shots", runs the second hand blurb Flamin' cheek Still it does prove one thing that Commodore User leads while others follow Reports of large groups of Commodore User fans besieging IPC are unfounded

Moving swiftly on to legal matters now Elite have taken out an injunction to stop Alligata from selling *Who Dares Wins* (reviewed somewhat unfavourably last month by our Ken) because they own exclusive rights to the arcade game *Commando* They claim Alligata's title is an infringement of copyright Alligata have responded by contesting the case More from your legal beagle next time

I m going to have a little fun now All this stuff about the software industry struggling to keep its head above water and pay the taxman etc is a load of flannel A probing look around the car park at the PCW Show was enough to make it perfectly clear that a lot of people in this industry are doing very well thank you out of us. So I thought I'd give you all the lowdown on what the software bosses are driving around in

Geoff Brown Used to drive a black *Porsche* — has now lashed out £63 000 on a new *Ferrari* His good lady wife Ann drives a BMW She bought it at the same dealer as Gremlins' Ian Stewart bought his and got first choice of colour However it was only a week before it was off the road "Where's you car?", asked a lowly employee Er it's having a service", says Ann hastily She had, of course, had a little ding She'd taken the side off it

David Ward: Ocean's boss is a confirmed *Porsche* man It seems, though he's had problems in keeping hold of it in the past It kept getting nicked Once he parked in the back of the garage and put an Escort in the way only to look out the window half an hour later to see it disappearing down the road

Another *Porsche* owner is Ultimate's **John Lathbury** He has a blue one, registration JL88 Melbourne House's **Geoff Heath** has a white one with a telephone in it Lord of the Rings programmer **Phillip Mitchell** is reputed to have hired a red one to impress a young lady he was after

Why this love affair with Porsches in our business, you might ask? I'll leave the answer to Virgin supremo and SDP publicist **Nick Alexander** 'Well I suppose it s because like the industry they go very fast for a while and then get clapped out" Nick Alexander drives a *BMW 628*, not a 2CV as you might imagine Talking of Imagine, **Bruce Everest**, one time managing director of the company, used to make a great play of throwing his *Ferrari* keys around the place Since the company's demise (Imagine Ltd, that is, not the one linked with Ocean now) he now drives a Fiat Uno How are the mighty fallen . .

You'd expect Elite's **Steve Wilcox** to be driving around in one of Alligata's motors, but the software world's hard man drives an *Escort* estate with 103,000 miles on the clock He must bus all his programmers to and from work in it

What of our good friend **Jeff Minter**? Surely he doesn't pollute the air with carbon monoxide? You might expect him to drive around on that silly bike of his or a Morris Minor specially adapted to run on camel dung In fact he drives an ok ya *Escort Cabriolet* (that's the soft top one) Reports that it's plastered with make love not war stickers are unfounded

Finally good ol' Mastertronic — what do they all drive to work in? No they don't take the bus or the tube Someone told me it was Rollers all round but a spokesman said the best they could offer was **Martin Alper's** *Mercedes* Otherwise it was Cortinas and Toyotas all round "What do you expect?" he said "Cheap games — cheap cars"

So now you know where those megabucks go from all those games you've bought with your hard earned pocket money

I'm off on holiday again on the proceeds of all that blackmail money people have paid up rather than have me spill the dirt on them Let me leave you with this parting (Hotshot Which software company boss describes his stuff thus "Most of our stuff on the 64 has been rubbish ' No answers on a postcard please to .

Some people will do anything to get their names in print. Trendy SDP voting Nick Alexander (he's the one in black furry boots) dressed up his Virgin Games colleagues as bunnies to illustrate their takeover of Rabbit Software Are they loonies or are they loonies? Maybe so, but not quite as daft as chubby Melbourne House programmer Stephen Cargill who hopped on a camel in Regent's Park Zoo to publicise his new game Fighting Warrior (see Screen Scene previews) A copy of this photograph has been sent to the RSPCA

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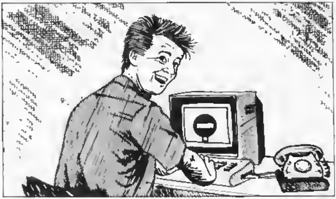
Hacker — the game

by Ken McMahon

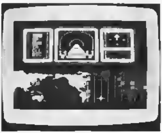


If you disapprove of the crazed and feverish nocturnal habits of the true hacker, or you can't even manage to page The Oracle, Activision's new 'Hacker' game could be for you. Break those security codes without breaking the law — and all for £9.95.

Not surprisingly, this game is nothing like a straightforward hacking simulation, but Activision have incorporated elements of the hacker's art into the general scenario. Once the game has loaded you are asked to log on and give your password. This, of course, you don't know. Fortunately this is not too much of a problem as, if you get it wrong, a system error lets you in anyhow. If only it were always that easy!

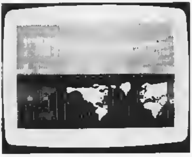
By means of peeking at messages intended for legitimate system users only, you discover that you have penetrated the security of Magma Ltd — a company involved in some pretty shady dealings. Another message flashes onto the screen and you discover that a secret document containing details of Magma's plans for world domination has been stolen and is in the hands of spies the world over.

Your task is clear. You must travel the globe via Magma's system of subterranean tunnels and by means of bribery or barter obtain the pieces of stolen document. To complete your mission these must be handed to Agent Levy of the FBI who will then be in a position to thwart Magma's plan for world domination.



Travel Magma's system of underground tunnels

This is where the fun starts. Using the Subterranean Remote Unit you must navigate a course through the tunnels to the major cities of the world. Having arrived at one, you can pop up to the surface and then negotiate with the spy for his piece of document. In Switzerland he demands "Que pouvez-vous m'offrir pour mon morceau de document". Luckily, you understand French and this guy accepts cash. He also offers you the deed to a Swiss chalet and a chronograph. It's worth taking him up on this as spies in other far corners of the world are fond of such things.

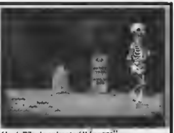


Choose your home position before starting the mission.

Just when things seem to be going well you are discovered. Drat. A message informs all users that there is an intruder on the system and security satellites are dispatched to deal with you. If you are unlucky enough to be intercepted you will be asked a question to verify your status. These vary in difficulty from the company name to the model number of your subterranean unit, but the information is always there, it's up to you to find it.

Hacker is an extremely enjoyable game, very well implemented and done with a lot of imagination. If the number of 'closet hackers' out there is anything to go by, it deserves to do very well.

Compunet Art Competition Results



Hugh Riley's animated "Jogger"

Dim the lights, sound the horns as the judges reappear with the results to Compunet's Art Competition. Remember, the idea was to design a graphic screen in either hi-res, low-res or animation mode and download it to Compunet. Winning entries to be screen-dumped by Bucks-based Dimension Graphics.

And the winners are: Chris and Anthony West for their low-res "Moonbugs", Rich Hare for his hi-res "Necromancer", and Hugh Riley for his animated "Jogging". Prizes included a framed portrait of the aforementioned masterpieces.

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Build Your Own Adventure

Part Two

by John Ransley

Did you type in the two program sections we served up last month? Not far to go now, just the final section and you'll be up and running with your very own adventure — and you'll know how it all works.

If you've already entered Parts 1 and 2 of the sample adventure listed in last month's issue, you'll have had a chance to test out the modules which create the 25-location map that is the basis of the perilous puzzler we've named *The Phantom of Priory Court*, allow you to explore it, and to pick up or drop any of the nine moveable objects you'll find dotted around the place. Also included in the first chunk of the program were the Inventory and Quit routines.

You now have only to type in **Part Three** of the program to get the full adventure up and running. But before explaining this final module to you, I have to take a brief squat on the penitent stool. Last month's listings harboured a couple of bugs which (unless you were better at spotting and correcting them than I was) might have triggered some exasperatingly inexplicable glitches.

Spot the goof

First, in line 3410 the variable W should hold the value 16 (and not 11) as follows:

3410 N = 12:S = 0:E = 18:W = 16:GOTO 1530

If you don't make this change, you'll find some very strange things happening to the program's sense of direction when you reach location 17.

As this goof proves, it's very easy to make typing mistakes when entering the alternate lines from 3060 onwards which hold all the values that determine legal and illegal moves — and very hard to spot them even on checking and rechecking a printout.

Learning from my own errors for once, I've devised a simple check routine which you can slip into the program just for the purpose of satisfying yourself that the variables N,S, E and W hold the correct values at each of the 25 locations. You can add these couple of lines now to check that all is well in **Part One** of the program:

1650 PRINT "N","S","E","W"
1655 PRINT N,S,E,W

When you Run Part 1 (with or without Parts 2 and 3) the variables symbolising the four points of the compass will print to the screen, and immediately below them will appear the values currently held in each. Those values represent the number(s) of the location(s) to which you can move from your current position. You should compare the legal and illegal moves indicated by the screen display with those shown on the master map printed in last month's article — and of course correct any discrepancies. Once you're satisfied that all is well, you can delete lines 1650 and 1655 altogether.

Secondly, I committed the programmer's cardinal sin of attaching the same label — W — to dynamic variables serving completely different purposes. W should always represent the grid number of the location West of your current position. Thus, if its legitimate value is altered in lines 2240-2260, weird things can happen to the legal and illegal moves declared by the screen display whenever you TAKE, GET, DROP or LEAVE an object.

To cure this fault, simply amend those lines as follows:

2240 FOR WL = 1 to LEN(I$)
2250 IF MID$($,WL,1) = " " THEN 2310
2260 NEXT WL

Finally, not so much a correction — more of an improvement. In a skeleton adventure such as this, player input error trapping is cut to the minimum. In practice, this can create hiccups when inputs are *nearly* right.

Take this example. If you move into location 12, you'll be informed that you're in the secretary's office, where there's a message pad in view. But entering the

FINAL PART

```
1280 REM♦♦♦SET STATUS OF CHALLENGES♦♦♦
1290
1300 DC=1 PW=1:HC=1.DB=1
1310
1500
1570 REM♦♦♦CHECK IF LOCATION PRESENTS A CHALLENGE♦♦♦
1580
1590 IF CP= 6 AND DC=1 THEN 3620
1600 IF CP=15 AND PW=1 THEN 3630
1610 IF CP=20 AND HC=1 THEN 3640
1620 IF CP=22 AND BD=1 THEN 3650
1630
1770 REM♦♦♦REM BLOCK MOVE IF CHALLENGE EXISTS♦♦♦
1780
1790 IF CP=6  AND DC=1 THEN GOTO 2040
1800 IF CP=15 AND PW=1 THEN GOTO 2040
1810 IF CP=20 AND HC=1 THEN GOTO 2040
1820 IF CP=22 AND BD=1 THEN GOTO 2040
1830
2020 REM♦♦♦BLOCK ESCAPE FROM CHALLENGE♦♦♦
2030
2040 IF I$="N"ORI$="S"ORI$="E"ORI$="W"THEN 2060
2050 GOTO 2100
2060 PRINT"NOT YET YOU DON'T!" GOTO 1740
2110 IF I$="H" THEN 2570
2120 IF I$="O" THEN 3770
2130
2140 REM♦♦♦CHECK FOR SPECIAL COMMANDS♦♦♦
```

apparently reasonable command TAKE MESSAGE PAD (instead of the acceptable TAKE PAD) will produce the error prompt BAD SUBSCRIPT ERROR IN (LINE) 2680. That's rather tough on the player after such a near miss. To soften the blow, add the following additional line to the original **Part Two**:

```
2675 PRINT NO$" ISN'T QUITE
RIGHT.": PRINT "TRY
SOMETHING ELSE.":GOTO 1740
```

The final stage

Having cleaned up the act a little, now's the time to key in the final part of the program which comprises the modules that handle the all-important hazard routines which are at the heart of the challenges set in any adventure.

The Phantom of Priory Court places just four simple obstructions in the way of the player's progress and solution. At location 6, the computer room, there's a lifeless C128 to both power-up and press into action — two challenges in fact — while in the staff canteen (location 20), there's a homicidal chef to thwart. Finally, a poisoned drinking fountain awaits the unwary in the corridor at location 15.

We must declare (or flag) at the start of the game that all four of these challenges are 'live', and this is done in line 1300. Then when the player makes a move, lines 1590-1620 check out whether his new position is one where a challenge is seeded and that it is still live. If so, lines 2040 prevent a move out of that location until the hazard has been removed or the puzzle solved.

Control then passes to lines 2160-2200 to sift the inputs offered at challenge locations. At location 20, for example, the key command is THROW JOYSTICK. If precisely those words are input, line 2960 then checks that a player does in fact have that object in his inventory (now you'll appreciate the purpose of the −1 value awarded to carried objects in the GET/TAKE module).

In the computer room — and to solve the game — it's necessary first to FIX FUSE (having already taken the fusewire found at location 17) and then to LOAD DISK. Again, you should have added the disk to your inventory at location 25 (having first zapped the crazed *saucer*, if you took the dangerous route through the canteen).

Help at hand

For a little added interest, I've added finally a simple Help module offering some oh-so-subtle hints. In this sample game, most of the challenges are satisfied if you say the right words while carrying a particular item. For your own adventures, you can turn the tables by making it impossible to move into a certain location, for example, unless you DROP a certain item.

Expand your game

There's no limit to the extent to which you can build on the simple framework of the demo adventure. Indeed, there's a lot of fun to be had from developing extra

features of gameplay which you can easily bolt onto this skeleton program in the form of additional modules.

For instance, you can conclude certain location descriptions with a Gosub to a routine that generates a sound effect, a snatch of music, or some simple but colourful graphics. For the latter you'll need to wipe the screen clean with a CHR$(147) on the VIC 20 and 64 or SCNCLR on the C16, Plus/4 and C128, in favour of a scrolling display — though the GRAPHIC 4,0 statement available on the Plus/4 (and its equivalent in the C128's new BASIC 7.0) can give you the best of both worlds.

Incidentally, Vic 20 owners may need to split a number of the location descriptions and other responses included in Phantom over two PRINT statements (perhaps requiring extra program lines) given Vic's smaller number of characters in screen width.

You may also like to keep track of how long you've spent on any one attempt. Do this by declaring TI$="000000" in an early program line and adding a line such as this:

```
2125 IP I$="TIME" THEN PRINT
"YOU'VE SPENT "TI$" ON THIS
ATTEMPT.":GOTO 1740
```

TI$ prints out, left to right, hours, minutes and seconds elapsed. You can improve on this raw material by splitting it with LEFT$, MID$ and RIGHT$ and dropping colons, for example, between the three pairs of digits.

Adventure players also like to keep tabs on the number of moves they've made. This is simply a matter of adding a routine like this one to the skeleton:

```
1410 NM = NM + 1
2128 IF I$="*" THEN PRINT
"YOU'VE TAKEN "NM" MOVES.":
GOTO 1740
```

Thus, touching the multiplication symbol ("*") key and Return will display the number of moves made in any one attempt, and this total will automatically update every time you move N,S,E, or W.

Read all about it

If this brief introduction to adventure programming whets your appetite and you'd like to learn more about the techniques which professional programmers use, there are a number of Commodore-specific books on the subject. I suggest that you browse through a number of them before making your final choice because they vary greatly in terms of the degree of Basic programming knowledge they presume of the reader.

Two excellent primers are *Commodore 64 Adventures* by Mike Grace (Sunshine Books, £5.95). Even simpler (and cheaper) is Usborne's colourful *Write Your Own Adventure Programs* (£1.99). Pete Gerrard's *Exploring Adventures on the Commodore 64* (Duckworth, £6.95) is also worth considering.

For the more confident programmer, *Adventure Games for the Commodore 64* (Collins, £6.95) details advanced techniques such as full-sentence parsers and text compression, and *Compute's! Guide to Adventure Games* by Gary McGath (Holt Saunders, £10.95) is also crammed with hints and inspiration.

If you're still not convinced that ground-up, top-down programming is for you, there's always The Quill (Gilsoft, £14.95) to help you painlessly to create quite sophisticated machine-code text and graphic adventures incorporating music and sound effects which can be copied and Run without The Quill in memory. Chart successes Subsunk and The Helm were both produced on The Quill, and the authors of Hampstead and Terrormolinos used it to master their adventures for Melbourne House. The Illustrator, an add-on which allows you to incorporate Hobbit-style high-res graphics, is due out soon.

So there you have it, a complete adventure that you can play around with and expand to your heart's content. Go on, be adventurous. ☐

FINAL PART (continued)

```
2150
2160 IF I$="FIX FUSE" AND CP=6 THEN 2850
2170 IF I$="LOAD DISK" AND CP=6 THEN 2870
2180 IF I$="SWALLOW ANTIDOTE" AND CP=15 THEN 2930
2190 IF I$="THROW JOYSTICK" AND CP=20 THEN 2960
2200 IF I$="USE TORCH" AND CP=22 THEN 2990
2550 REM***RESPOND TO HELP REQUEST***
2560
2570 IF CP=6 THEN PRINT "IF YOU'VE BLOWN IT - FIX IT!":GOTO 1740
2580 IF CP=15 THEN PRINT "CAN'T YOU TAKE SOMETHING FOR IT?":GOTO 1740
2590 IF CP=20 THEN PRINT "PUT A LITTLE JOY INTO HIS LIFE.":GOTO 1740
2600 IF CP=22 THEN PRINT "CARRYING NOTHING LIGHT?":GOTO 1740
2610 PRINT"SORRY - CAN'T HELP.":GOTO 1740
2620
2220 REM***CHALLENGE ROUTINES***
2830
2850 IF PL%(7)=-1 THEN PRINT "THE C128 BURSTS INTO LIFE.":DC=0:GOTO 1660
2860 IF PL%(7)=<>-1 THEN PRINT "YOU DON'T HAVE THE FUSEWIRE.":GOTO 3770
2870 IF PL%(9)=-1 AND DC=1 THEN PRINT "LOAD A DUD COMPUTER?":GOTO 3770
2880 IF PL%(9)=-1 AND DC=0 THEN GOTO 3690
2890 IF PL%(9)<>-1 THEN PRINT "YOU DON'T HAVE THE DISK."
2900 GOTO 3770
2910 IF PL%(7)=-1 AND PL%(9)=-1 THEN DC=0:GOTO 3690
2920
2930 PRINT"THE ANTIDOTE WORKS.":PW=0:GOTO 1660
2940 PRINT "YOU DON'T HAVE THE ANTIIDOTE.":GOTO 3770
2950
2960 IF PL%(1)=-1 THEN PRINT"GREAT AIM! HE SLUMPS TO THE FLOOR.":HC=0:GOTO 1660
2970 PRINT"BUT YOU DON'T HAVE THE JOYSTICK.":GOTO 3770
2980
2990 IF PL%(2)=-1 THEN PRINT"NOW YOU CAN SEE THE WAY OUT.":DB=0:GOTO 1660
3000 PRINT "YOU DON'T HAVE THE TORCH.":GOTO 3770
```

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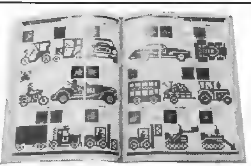


Screen Shot Graphics

Dorling Kindersley's *Screen Shot* books incorporate a novel, but effective method of teaching programming on the Commodore 64. Each book is actually illustrated with screen shots, not only of the program listings, but of their results. The first two books in the series — on Basic programming — were a little disappointing, but books three and four warrant a better reception

Both are concerned with the 64's graphics capabilities in slightly different ways Book three deals with high resolution displays, whereas book four is concerned solely with the design and programming of sprites.

Book Three contains a number of machine-code programs which add powerful hi-res graphics commands to the 64's Basic. The machine-code programs are entered in the form of a simple Basic loader program which POKEs the code into memory from data statements So you don't have to know any machine language and indeed no attempt is made to explain the inner workings of the routines Instead they are incorporated in Basic programs where a full explanation is given of what's going on.

Having entered the routine which plots a single pixel at any specified point on the hi-res screen you can include it in a program which draws realistic looking planets. Interesting patterns and landscapes can be created using the line drawing function

The subjects become more ambitious as you progress, including circles and arcs, shape filling, pattern filling, and user defined graphics. The book also contains a number of useful utilities like a character designer and graphics editor.

Book four — on sprites — takes a different approach. First of all simple sprite programming is covered with the help of a few Basic programs. Here you will learn how sprites are made up and controlled, how to code them manually and store the data in memory, how to switch them on and off, move them around, colour them etc. You are also shown how to include sprites in games, with a few examples thrown in.

The next section of the book is basically a listing for a fairly good sprite editor which enables you to design and store up to 32 sprites in memory at any one time. Much less tedious than the felt tip and back of an envelope method! This editor has all the usual features including the most useful of all; a facility to turn your sprites into data statements for inclusion in your own programs.

DK
Screen Shot
STEP-BY-STEP
PROGRAMMING
COMMODORE
64
GRAPHICS
PHIL CARNES
BOOK THREE
DK
Screen Shot
STEP-BY-STEP
PROGRAMMING
COMMODORE
64
GRAPHICS
PHIL CARNES
BOOK FOUR

Knowing how to program sprites is only half the story though Probably the most difficult aspect is designing them. The second half of the book is a directory of over two hundred sprite designs. So if you're stuck for a space crab, lost for a lunar lander, or like me, simply bereft of any artistic talent whatsoever, this is the place to look.

Both these books are highly recommended to anyone considering adding graphics skills to their programming repetoire whether beginner or experienced. The 'Screen Shot' format makes for easy comprehension as well as ensuring mistake proof program entry.

Ken McMahon

- **Screen Shot programming Series**
  Books 3 & 4
- **by Phil Carnes**
- **Dorling Kindersly Ltd**
  9 Henrietta Street
  Covent Garden
  London WC2E 8PS
- **£5.95 (each)**
- **Two excellent graphics manuals**

Getting Technical

The fourth, if I'm not mistaken, in the 'revealed' series by Nick Hampshire, *The Commodore 64 Kernal and Hardware Revealed* is, like its companions in the series an excellent and informative book.

Not exactly what you'd call a bedtime read, the book is packed full of the kind of information that's more useful for reference purposes The introductory chapter is entitled 'inside the Commodore 64'. I've seen that a lot of times before, but never seen it explained in such technical detail As well as circuit diagrams, there are descriptions of the main chips such as the 6510, 6526, and the SID and VIC chips.

Subsequent chapters deal with serial communications, the cassette unit, the user port and interrupts. If this seems a strange mix of subjects that's because they are the main areas in which the 64's KERNAL system operates. In each chapter the functions of the hardware and software are described in full There are disassembly listings of all the Kernal functions together with documentation on how they work

The book is more than a collection of diagrams and disassembly listings though. The text, as well as supplementing the technical information, goes over some interesting and useful subjects The cassette chapter includes an extensive explanation of how data is recorded, how turbo loads work, and includes two fast load listings you can incorporate into your own programs

The chapter on the user port shows you how to hook up a speech processor chip.

To get the most out of Kernal and Hardware Revealed it would certainly help to have a working knowledge of electronics, or at least know one end of a soldering iron from the other. However it will still be a useful book for those who want to know their machine inside out and back to front. The book is written for the most part in a highly technical style and a fair amount of knowledge on the part of the reader is taken for granted. It's not therefore a book I'd recommend to the inexperienced.

Ken McMahon

NICK HAMPSHIRE
THE
COMMODORE
KERNAL AND
HARDWARE
REVEALED

- **The Commodore 64 Kernal and Hardware Revealed**
- **by Hick Hampshire with Richard Franklin and Carl Graham**
- **Collins**
  8 Grafton Street
  London W1
- **£10.95**
- **A useful book for the experienced programmer**

It's no use saying the Commodore 64 is just a toy. The amount of business software now available for it (stock control, accounts, databases, wp, spreadsheets) prove that the 64 is eminently suited to the small business or retailer. With most of those programs now being duplicated and enhanced for the new 128, the potential for cheap business computing grows even larger.

But the problem remains one of software support. You can't expect your local 'games' supplier to spare the time or have the experience to help you choose a database. You can't expect a hard-pressed software house to sort out your problems — or can you?

Mister Buyright

A guide to buying the right software

by Ken McMahon

The Software choice

I don't propose to go into too much detail about individual software packages as this information can be readily found elsewhere (see for example 'Top Ten Databases' and 'Top Ten Word Processors', *Commodore User* September/October issues). Rather I'll be looking at some of the different programs on the market, finding out where you can get hold of them and what sort of advice is available to help you make the right choice

Often one of the most important factors in deciding on a piece of software is the kind of back-up service provided by the retailer or distributor Business software, no matter how user friendly and well documented takes a certain amount of time and effort to become well acquainted with It's comforting to know that if things start to go wrong there's someone around to offer a few words of wisdom and put them right

● **Precision Software:** Precision market two business packages, a database and word processor called respectively *Superbase* and *Superscript*. At £100 Superbase is one of the most expensive databases around, but then it is probably one of the best. The good ness is that it's just been reduced to £79 95 At £69 95 Superscript is a good value professional word processor One of the more useful features from the business point of view is the mail merge facility which enables you to send standard letters to a number of different addressees The program includes a spelling check facility complete with thirty thousand word dictionary, but in practice this is tediously slow for all but the shortest documents

Both programs are accompanied by excellent documentation in the form of a ring-bound manual which takes you through the simplest operations to the more elaborate ones in a tutorial style Should you encounter any problems though, Precision's technical support department will be happy to put you straight. The man to speak to is Brian Leighfield. Superbase and Superscript are also available for the C128, taking advantage of the wider screen format. Prices are £99.95 and £79.95 respectively

● **Viza Software:** Viza's database, *Vizastar* comes in two flavours The XL8 version which is £129 95 has two advantages over the cheaper XL4 at £99 95 Firstly it gives you an extra 4K of memory to play with by virtue of its 8K ROM cartridge More useful perhaps are the more sophisticated graphics which support coloured pie charts and multi-bar graphs

The word processor, *Vizawrite*, is of the 'what you see is what you get' variety This means that, unlike Superscript, the text is formatted on the screen as you type Vizawrite again, has all the facilities you'd expect to find like mailmerge, but if you want something to check your spelling you'll have to pay a little extra. Vizawrite itself is £79 95 for the disc version, the spelling checker bumps the price up to £99.95.

Viza's documentation never won them any awards, but word has it that things have taken a turn for the better in recent months If, despite that you're still having problems they will be only too glad to help you sort them out. The man you want to talk to is called Jonathan Dunn.

● **Audiogenic** have a suite of three programs for the business user, a database, spreadsheet, and word processor *Micro Magpie*, the database is good value at £39.95. The program is particularly user friendly, involving the use of pop up menus to implement the various functions, but at the same time allows the use of quite sophisticated file management techniques. *Micro Swift* incorporates all the usual functions you would expect to find on a spreadsheet You can define column widths for text and arithmetic input, perform calculations on columns, and change various figures to carry out 'what if' type analysis. Once again it's just £19 95.

● **Dataview Wordcraft's** *Wordcraft* is a fairly basic word processor although it does incorporate many of the essentials such as mail merge. As with Vizawrite the text is formatted on the screen as you type it. At £24 95 it's one of the cheapest around so if it satisfies your requirements you may find there's little,point in paying the extra for something more sophisticated. If you're having problems deciphering the manual, or the user friendly software is having an off day, Audiogenic's or Dataview's technical query service should be able to help.

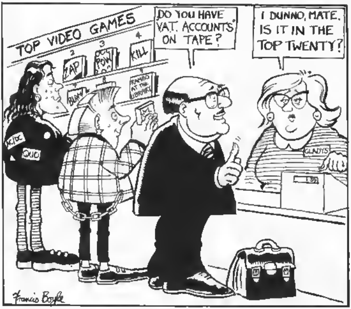
● **Dialog** produce such a wide range of business software that there isn't room to include everything As well as their *DFM* database there are several other applications packages suited to particular business requirements. *Transact* is a book keeping system and nominal sales ledger which observes normal accounting conventions Sales ledger and invoice processor is an open item accounting system which allows you to create invoices from product tables It can cope with multiple rates of VAT on invoices and suspense accounts

If none of those fit the bill, Dialog also produce, among other things, a purchase ledger and a stock control package. All of the programs are £34 95 with the exception of purchase ledger which is £29 95 Most of them should be available for the C128 by the time you read this. Any problems and Dialog's software support people will be happy to help you out.

Getting advice

This list is not exhaustive, but it does show that producers of business software are generally only too happy to provide telephone help and support. In many ways this is something to be thankful for Advice of this sort doesn't usually come free, many consultancies would charge for an hours work what you pay for the average 64 business software package. So, should potential purchasers think themselves lucky to get any help at all?

Precision Software's Nigel Lovett-Turner thinks so: "They should not expect very much, but they seem to expect an awful lot. We're hooked on service here in the UK; things are very different in the States where people expect nothing more than the product they've paid for"



If Lovett-Turner makes it sound like Precision's help and advice is somewhat grudgingly offered then you may be asking yourself why they do it. The answer of course is that they have to. Despite the fact that the documentation may be second to none, some people will still manage to get in a tangle. If they have no comeback on the producer they'll be severely disgruntled to put it mildly. This kind of thing gets around fast, so for many companies it's largely a question of doing what's necessary to avoid getting a bad public image

Return to dealer

Of course you don't have to rely on software houses if things don't turn out to be as straightforward as you expected You can always go back to the place where you bought the package. Whether you get any joy or not depends a great deal on who sold it to you in the first place.

Business software doesn't generally find its way into the big high street stores like Boots, John Menzies and WH Smiths The reason for this is twofold.

Firstly, the software houses know that these stores don't have the trained staff to sell their product properly). Apart from that, even if software producers did want their stuff in the high street chains the shops wouldn't take it. The reason is simple. It's too expensive and it sells slowly

Dialog software's Chris Ely explained, "Business software is very difficult to sell and they haven't got a clue what it's all about. There's not enough profit margin in it for those kind of dealers, particularly if they have to spend an hour explaining how it works. Basically, they treat software like any other commodity "

So where should you go to get all the right advice and walk out of the door with the right package? Well, you will probably find more or less what you're looking for in any one of the hundreds of specialist micro dealers up and down the country. But some are obviously better than others, so how do you get a good deal?

The right dealer

I had considered providing a list of some of the retailers I've visited and found to offer a good service, but such lists are so limited and leave out so much they're of little practical use. Instead, here's some things to bear in mind for those considering a venture into the business software jungle:

1) Work out your needs: There's a lot of work to be done before you even reach the shop The first thing to do is decide what tasks you actually want to carry out. When you've made your decision stick to it. Don't go in looking for a database and walk out with a word processor and spreadsheet as well Even if it seems a good idea, take time to consider it

2) Find out what's available: The next thing to do is find out what's available to do the job you have in mind That's the only way you're going to know what's not on offer. So if a retailer suggests that Vizastar is just the thing you're after, you can ask why Superbase wouldn't do the job just as well for twenty quid less.

3) Buy the magazines: Read the advertisement pages of the micro press. Retailers usually include a list of the major packages they stock If this includes half a dozen databases and as many spreadsheet programs or word processors it's a fairly good indication that they'll be able to help.

4) Free advice? A quick phone call will confirm this and while you're at it you can find out how amenable they are to the idea of providing free advice post purchase.

5) Get a demonstration: By the time you get this far, if you've followed the above advice you should end up in a reasonably good dealers. Explain what you're looking for and ask to see a few programs demonstrated. If, for whatever reason they can't give you a demo the answer is simple — don't buy it. If a dealer hasn't the time to show you software when he's on to an earner then he's harldy likely to show much interest if you run into trouble after you've handed over the readies.

Finally, if you do run into trouble having bought the software, remember to check that you've followed the manual and you at least appear to be doing everything correctly. If you do have to go back to the retailer remember that while he may be able to give you some guidance, he's got a business to run (just like you!) and he hasn't got all day to devote to your problems. □

Precision Software
4 Park Terrace
Worcester Park
Surrey KT4 7JZ
01-330 7166

Viza Software
9 Mansion Row
Brompton, Gillingham
Kent ME7 5SE
0634 813780

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Wizard's Lair

Wacky gifts for Christmas

Dan Gutman reports

What, Christmas already? Americans are gradually breaking in their credit cards for the Festive Megaspend. Meanwhile Dan Gutman's rounded up his favourite wacky gift ideas for computer lovers — and he's listed all the addresses in case you're tempted. . .

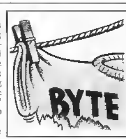
I don't know what Christmas time is like in England, but in the United States it's like a big party that lasts from Thanksgiving (November 25th until New Year's Eve. Even if people don't celebrate the *religious* part of the holiday, they'll string lights across their houses, take the kids to sit on Santa Claus' lap, and send Christmas cards to all of their friends.

But the biggest part of the holiday is giving presents Americans *love* to give and get presents (*so do we — funny coincidence that — Ed*). Computer people are no exception. But computer lovers love *different* kinds of presents We don't just after new clothes or golf clubs. We want our stockings stuffed with multifunction cards, file servers, quadboards, bus extenders and other things with equally weird names.

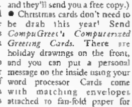
Not many of us can afford to hand out Amigas to all our friends, but there are plenty of less expensive items that are fun to give and receive. Here are a few ideas from American companies that might make interesting stocking stuffers for the computer lovers in your life. The addresses of all the manufacturers are included so that you can write to them for orders or more information.

● **Christmas Carols** will never be the same once you buy John Henry Software's *Christmas Carols*. It's a full disk of computer generated music, including such favourites as Deck The Halls, O Come All Ye Faithful, Jingle Bells, and Silent Night There are 18 songs all together, and the lyrics appear on-screen. For the Commodore 64 $17. (*John Henry Software, 1252 Crestwood Hills Dr., P O. Box 745, Vandalia OH 45377*).

● **They'll never call you** a computer nerd again (at least not to your face) after you stride into the room with your *Byte My Bits* T-shirt. It's available in all sizes and colours Compatible with most humans. £8 95. (*Sweet Gum, 15490 N.W 7th Ave., No. Miami, FL 33169.* Sweet Gum has a whole catalogue of funny computer gift ideas. Write them and they'll send you a free copy.)



● Christmas cards don't need to be drab this year! Send *CompuGreet's Computerized Greeting Cards*. There are holiday drawings on the front, and you can put a personal message on the inside using your word processor Cards come with matching envelopes attached to fan-fold paper for tractor-feed addressing Twenty cards and envelopes for $9.95, 100 for $45 (*CompuGreet, P O. Box 3357, Reston VA 22090*)



● **If you like chips**, you'll love *The Chocolate Chip*. It's a 54-gram bar of the finest Belgian chocolate that's been moulded into the shape of guess what — a microprocessor chip! $5.95. (*The Computer Museum, 300 Congress St., Boston MA 02210*). Another chocolate computer maker is SweetWare ("We Make High-Tech Appetising") Inc. Write to them at *516 Shelburne Rd., South Burlington VT 05401*

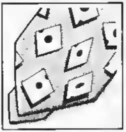
● **Santa has disappeared** and there isn't going to be any Christmas this year unless you find him. That's the plot of *A Christmas Adventure* a computer game for the Commodore 64 It features hi-res graphics, animated sequences, and music. $24.95. (*BitCards Inc., 30 W Service Road, Champlain NY 12919*)

● **Duff jokes:** "Did you hear about the computer programmer who made it big in the movies? He had a bit part." That's one of the silly greeting cards made by Current Inc. They also make computer memo pads, computer stickers, decorative computer paper, and colourful diskette holders. (*Current Inc. Dept DHD6, Colorado Springs CO 80941*).

● **A mouse** can get cold on these winter nights. *Mouse-House* is a furry pet that fits over any mouse. It just goes to show that if you build a better Mouse-House, the world will beat a path to your disk drive. The perfect gift for concerned Amiga owners. Cheese not included. £6 95 (*American Covers, 512 Wewst 9460 South, P.O. Box 1796, Sandy UT 84091.*)

● **Microcomputer chips** are now so tiny, you can actually wear them as jewelry The Computer Museum in Boston sells all sorts of "*micro-chip jewellery*" — earings, pendants, tie-tacks, cuff-links, necklaces, bracelets, and rings. Write to the Boston Computer Museum for a free catalogue of other computer knick-knacks And if you visit the States, be sure to stop into the Museum itself. It's a fascinating afternoon

● **Tie it up:** is that a spot on your tie? No, it's a miniature floppy disk pattern! The "*Diskette Tie*" and the "*Microchip Tie*" aren't the latest thing in fashion, but a trend has to start somewhere, right? $14 95. By Sweet Gum



● **Seiko's new** *PC Datagraph* computer watch can store phone numbers, addresses, your daily schedule, a grocery list, or a cheat sheet for that big exam. It hooks up directly with your Commodore 64/128 so you can transfer information back and forth. $199 — see *Commodore User*, June issue for details.

● **The ultimate gift** for the absent-minded — *Key Finder* The next time you lose your keys, just give a whistle. The Key Finder keychain contains a tiny speaker, receiver, and microchip programmed to respond to the key of D. It's sensitive up to 40 feet $17 (*KC Distributors, P O. Box 157, Richford VT 05476*).

● **Micro-jog:** Now you can computerize your jogging with Puma's *RS Computer Shoe*. An electronic sensor in the heel of the left shoe records every time your foot hits the ground. There's also a stop watch, so the shoe can record how long you ran, how far, how fast, and how many calories you burned When you've finished running, go home and plug the shoe into your C-64 Colourful on-screen graphics let you know your running progress.

Remember, it's better to give than to receive. Especially when you receive some of *this* stuff. ☐

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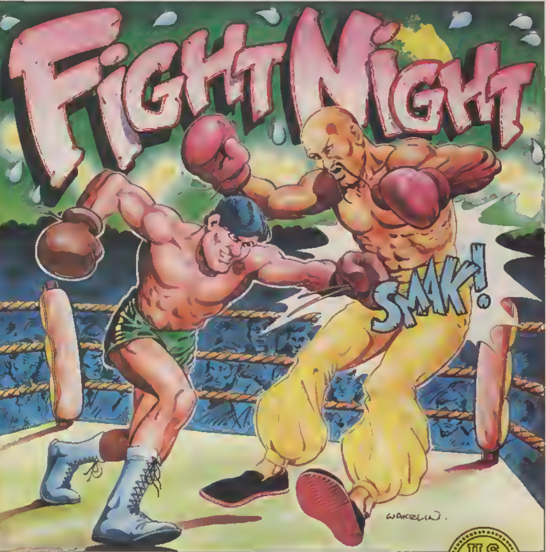

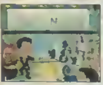

From time to time a software title is released, so innovative that it breaks new ground in graphical and technical achievement — Fight Night, the first animated simulation on the C64 is more than a game, more than a simulation — it is a revelation!

"It has class, it has style — forget the rest, Fight Night is quite simply the absolute best" — Tony Takoushi Computer & Video Games/Computer Trade Weekly.

"It's like watching and playing a cartoon computer version of Rocky. Fight Night has pushed the graphical capabilities of the C64 to its utmost limits" — Zzap 64 November.

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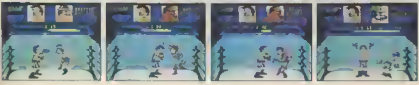

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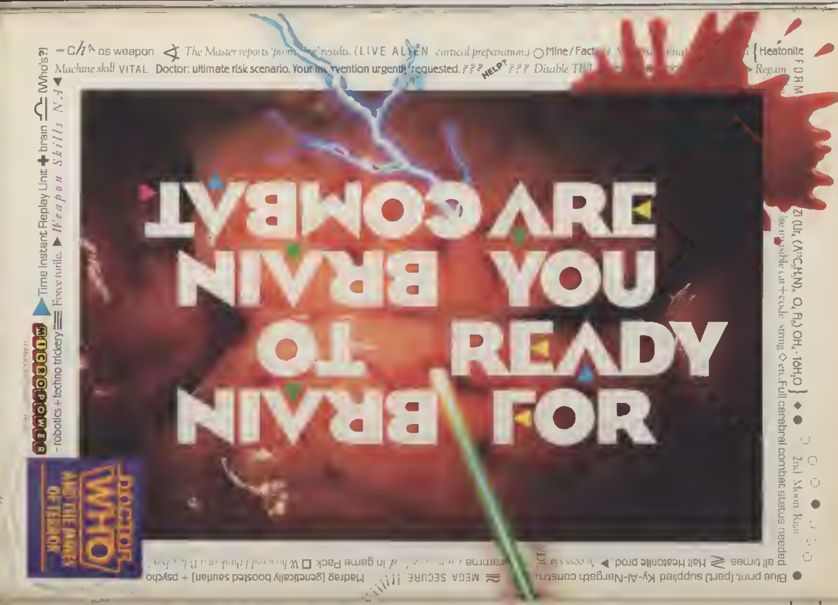
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TOP TEN SPREADSHEETS

choosing a spreadsheet calculator for your 64

by Karl Dallas

We've reached the final part of our Top Ten business programs series. Here it is, an in-depth look at spreadsheet packages.

Let's start by asking a simple question: what makes a good spreadsheet?

- **The size:** For a start, it is not necessarily size, especially the size quoted in your average brochure. This is because the figures quoted are maxima, though the maximum number of rows may be 255 and the maximum columns the same, this doesn't mean that you can construct a spread sheet of 650525 cells, because you'd run out of memory long before you got anywhere near that size.

And spreadsheet size also depends on what you want to do with it. A simple sheet, without complex calculations, can be larger than one that contains numerous long formulae, since these also need memory to operate in.

- **The Speed:** Another impotant thing is speed: the larger a sheet, the more time it will take to recalculate each piece of data as you type it in. Doesn't matter if the formulae have already been calculated, they will still be worked out again, unless you have some way of turning off the "recalc" option.

Speed is something you can only find out about from experience, and bear in mind that a spreadsheet with powerful facilities running on a computer with a memory as modest as the 64's will probably slow the system down a bit while it swaps the memory around.

So what can you expect to get from a spreadsheet? The following characteristics are fairly standard.

- **Virtual screen:** the sheet itself occupies a "virtual screen" several times the size of your normal screen display, and as you move across, or up, or down, the display scrolls past the screen window
- **Cell input:** data is input into the single squares of the sheet, known as cells, in the form of text (LABELS), figures (VALUES), or FORMULAE, consisting of calculations performed on preceding values. This means that if you input the figure 100 in cell A1 and the figure 200 in A2, then if A3 contains the formula A1 + A2 it will display the figure 300.
- **'What if' function:** the "what if" facility means that it can recalculate instantly, so that if you change the contents of cell A1 to 200, the contents of A3 will change to 400 (as I've said, often it is possible — and advisable — to switch off this recalculation feature while inputting large masses of data, since it can slow matters down rather)
- **Copy and replicate:** labels, values or formulae, or columns or rows of any or all three of them, can be replicated, or copied, to other parts of the sheet, simplifying the setting up of a sheet structure before you input any data

During replication, formulae can be copied with *absolute* or *relative* values, so that if A3 is replicated to C3, either the *absolute* values of the formula A1 + A2 can be retained, or changed to the *relative* values of C1 + C2.

- **Variable formatting:** cell contents can be formatted in various ways: labels can range left or range right, values or results of formulae can be displayed as integers, floating point, or pre-determined numbers of decimals (usually two, for the representation of decimal currency like dollars and cents, or pounds and pence), with or without rounding.

Formatting can be confined to individual cells, replicated to specific areas of the sheet, or applied globally to the entire sheet (though individual exceptions to the global format may be specified).

- **Data interchange:** data can sometimes be interchanged with other programs (sometimes in Basic), but this often involves a rather complex routine known as Data Interchange Format (DIF) which is particularly useful for swapping data (but not formulae) between different spreadsheet programs.

Name: AUTOCALC 64
Price: £14 95 tape, £19 95 disk
Distributors: Richard Shepherd Software 23-25 Elmshott Lane, Cippenham, Slough, Berks.
Format: Disk/tape
Max No. of Cells (Hor): 255 (maximum cells on sheet 2000)
Max No. of Cells(Ver): 255 (maximum cells on sheet 2000)

A much better spreadsheet than the sketchy unindexed page manual would lead you to believe. The lack of any information on printers (apart from the commands necessary to select what part of the sheet to print) is amazing. It supports the Commodore range, and the Seikoshe GP 1000VC but there is no info for configuring for other printers.

There are, however, examples on cassette or disk and the on-screen display is helpful, despite the lack of specific help screens. And it permits the use of IF . . . THEN conditional functions in formulae, which some more powerful sheets lack

Name: SPREAD SHEET CALCULATOR
Price (tape): £14 99
Distributors: Kuma Computers, Unit 12 Horseshoe Park Horseshoe Rd, Pangbourne, Berks RG8 7JW (tel 07357-4335)
Format: Disk
Max No of Cells (Hor) 26
Max No of Cells (Ver). 50

Simple, budget-priced spreadsheet linking with the same company's Database and Simple Accounts programs. Totals, subtotals and formulae are all in different colours, to aid reading.

Name: MICRO SWIFT
Price (disk): £19 95 (C128 version £24 95)
Distributors: Audiogenic, PO Box 88, 34-36 Crown Court, Reading Berks RG6 1AZ (tel: 0734 664646)
Format: Disk
Max No of Cells Hor 26 (64 on C128)
Max No of Cells(Ver): 254

A good, fairly powerful sheet, that's easy to use thanks to the Macintosh-style pull-down menu system which Audiogenic pioneered for Commodore with the *Magpie* database. Though this slows matters up a bit after you've got used to the way it works, it does mean that the lack of any kind of help screen is no real problem. The manual is brief, clear and to the point. Commodore and Centronics-style parallel printers (eg Epson) are supported, and there's a simple set-up program for adapting to others.

Despite the low price and unpretentious packaging, Swift is pretty sophisticated. It comes with useful examples on disk.

It is possible to program it, by placing a series of Basic-like commands in column Z of the sheet, beginning with the name of the procedure, preceded by a hashmark (#), and concluding with the QUIT instruction.

The functions available include the usual mathematicals as well as GOTO, IF and IFGOTO, providing automated motion about the sheet. Recommended

Name:	POWER PLAN
Price (tape):	£44 99
Distributors:	First Publishing Ltd, Unit 20B, Horseshoe Road Horseshoe Park Pangbourne, Berks (tel 07357-5224)
Format:	Disk
Max No of Cells (Hor):	255
Max No of Cells (Ver):	63

A reasonably-priced, mid power spreadsheet with a useful graphics capability, able to produce bar charts, curve graphs (including multiple curves), point-to-point graphs, an interesting chart they call a "mini-maxi graph", and pie charts.

The program is menu-driven, and most of the mnemonics are fairly obvious, apart from <R> from gRafics (sic) or <I> from dIsk.*

Combining the graphics pack with the capacity for up to eight windows on screen at a time allows several graphs to be viewed simultaneously. Moving from the spreadsheet to graphics mode and back again is rather slow, taking about two minutes, though in the graphics mode the spreadsheet in memory can be looked at, though not modified in any way.

It is configured for a choice of three classes of printer: MPS 801, CBM 1525, or CBM 1526 or Epson FX80 or RX80. There appears to be no way of modifying the configuration of any of these to a printer which is marginally different.

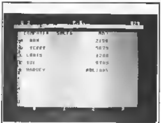
Name:	PRACTICALC II
Price (disk):	£69 95
Distributors.	Practicorp, Goddard Road, Whitehouse Industrial Estate, Ipswich, Suffolk IP1 5NP (tel 0473-462721)
Format:	Disk
Max No of Cells (Hor):	100
Max No of Cells (Ver):	200 (C64 250)

A reasonably priced, quite powerful program, with very little difference between the Vic and 64 versions except a greater number of rows availabe. There's the option of high and low resolution bargraphs, sorting alphabetically or numerically, in ascending or descending order, and 22 mathematical functions.

It can read other Practicalc files, and also Practifile database files, as well as ASCII files produced by other programs. The exellent manual was written for Apple, and needs a 24-page supplement of adaptations to be used on Commodore equipment.

The "help" facility, accessed by <CTRL>+A (for assist) or F8, is comprehensive and instantaneous, but the information is displayed on screen in capitals, which is less readable than upper-and-lowercase. There is an 80-column option, which really needs a hi-res monochrome monitor to be readable.

Most printers are supported, and there is an easy-to-work configure program supplied for adapting to those not covered by the built-in software.



Name:	PS
Price (disk).	£69 95
Distributors:	PractiCorp, Goddard Rd, Whitehouse Ind Est Ipswich Suffolk IP1 (tel 0473-462721)
Format:	Disk
Max No of Cells (Hor):	50 (maximum cells on sheet 2000)
Max No of Cells (Ver):	(maximum cells on sheet 2000)

A reasonably-powerful spreadsheet, with a total of 2000 cells (which can be allocated between rows and columns as the user wishes), producing sequential files which the skilled user could access fairly easily, enabling some portability.

Its main plus is the fact that it can be programmed in Basic. Twelve possible program modules, including such facilities as help messages, disk directory, prompts for data entry etc, are on disk and LISTed in the excellent 124pp spiral-bound manual (with index on page 96, at the beginning of the appendices).

Memory locations of important ML routines are also well documented.

Name:	BUSICALC 3
Price (disk):	£75 00
Distributors:	Supersoft, Winchester House, Canning Rd Wealdstone, Harrow Middlesex HA3 7SJ (tel 01-861 1166)
Format:	Disk
Max No of Cells (Hor):	999 (maximum cells on sheet 2000)
Max No of Cells (Ver):	999 (maximum cells on sheet 2000

A typical no-nonsense application, worth upgrading to if you're already using the previous Busicalc 1 or 2 (it can read B1 and B2 files, and there is a utility program for converting them). The file structure is quite accessible, so portability shouldn't be a problem. There is a program in the manual for READing Busicalc files, which could easily be adapted to turn them into DIF files.

The 48-page manual could be improved, especially with an index. The program disk contains a "News" program for the latest update info, which is a good practice usually adopted by Supersoft.

CBM/ASCII/parallel printers are supported and there is a program for setting up other printers. The disk contains some useful examples.

Name:	MULTIPLAN
Price (disk):	£99 00
Distributors:	Thorn-EMI Computer Software, 296 Farnborough Road Hants GU14 7NF (tel 0252-543333)
Format:	Disk
Max No of Cells (Hor):	63
Max No of Cells (Ver):	255

Probably the best spreadsheet around at the moment, and the only thing really distinguishing the Commodore version from the more expensive CP/M and MS-DOS versions is its speed, since it has almost twice as much RAM memory in the CP/M version, and can have ten times as much on a 640k PC, and the C64 version has to access disk all the time.

The system disk is divided into seven areas, of which the first 46 blocks are devoted to the "boot" program and the basic code, with over 400 other blocks of mainly sequential and relative files which are accessed as the sheet is developed. Of these, a hefty 153 blocks are devoted to really valuable help screens, which make the superb manual almost superfluous. The only printer supported is the Vic-1525, which is a surprising limitation.

Only one sheet may be displayed at a time — though it can be split across up to eight windows, but there is a very sophisticated external command, which allows the sheet in memory to be linked in all sorts of ways with files on disk.

There is also a "SYLK" (SYmbolic LinK) file format, which allows the interchange of information between Multiplan and other programs, similar to Visicalc's Data Interchange Format (DIF), which could be used to upgrade from

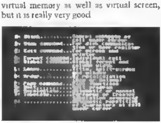
CalcResult, which supports DIF. But although the manual says that DIF files can be accessed via SYLK, there is no detailed description of how this can be done

Name:	CALC RESULT
Price (disk):	£99 95 (64 Easy CalcResult £49 95)
Distributors:	Handic Software Ltd, 5 Albert Rd, Crowthorne Berks RG11 7LJ (tel 0344 77800)
Format:	Disk
Max No of Cells (Hor):	63
Max No of Cells (Ver):	254

CalcResult is a so called "3D" sheet linking together up to 32 pages of sheets, each of them with up to 16002 cells (63 columns across × 254 rows down), making over half a million cells, with the final sheet totalling all tables

Up to four can be displayed in separate windows on screen. Easy CalcResult is cartridge-based, a single sheet of 16002 cells, and less than half the price.

Disk access slows it down, since it uses virtual memory as well as virtual screen, but it is really very good



One of CalcResult's Help screens

Name:	VIZASTAR
Price (disk):	£99 95 (8k ROM version £129.95
Distributors:	Viza Software 9 Mansion Row Brompton, Gillingham, Kent ME7 5SE (tel 0634-813780)
Format:	Disk
Max No of Cells (Hor):	64
Max No of Cells (Ver):	999

An integrated package, described as an information processor, combining database, spreadsheet and graphics in a really professional manner The real plus is that it claims an average access time of less than three seconds Available with 4k or 8k cartridge, and with graphic enhancements for pie and multibar charts

Its spreadsheet is programmable, and since the programming "macros" mainly use the initial letters of the sheet commands, this facility is easy to use. Compares favourably with famous names like *Lotus 1-2-3*, and is actually easier for the beginner to get more power, though obviously its speed is limited by memory and disk limitations.

Much easier to use now that they've rewritten the manual and supplied a useful tutorial. Supports the Commodore and Epson FX80 printers, as well as Centronics parallel and RS232 serial printers. Highly recommended. □

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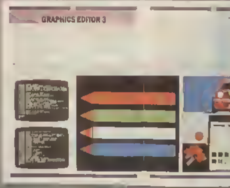
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- **Colour:** Supports full colour down to individual cell level
- **Help:** Easy help screens available, at all levels
- Calc Result is also available in eight European languages

Applied Calc Result describes a larger number of applications in the area of –
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The user of Calc Result will find among the applications given many useful examples of how to get the most from Calc Result.

THE Handic supermarket basket is full of 'goodies' for your Commodore 64. Here is a brief description of what they all are! Don't forget – if you need any more information, either clip the coupon (and tick column 'A') or give us a ring.

1 Mon 64
An outstanding Machine Code Monitor (cartridge based)

2 Teledata
Communication cartridge for use with the CBM 64, link up with Databases like the bank or supermarket, over the telephone lines

3 Superbox 64
An expansion unit for the Commodore, which features three independant cartridge slots; IEEE interface that is totally transparent, has multi-user capabilities with IEEE; and a re set switch which activates a cold start on the computer. This unit will connect up to 3 cartridges at the same time, which makes frequent altering between programs simple and reduces wear on the cartridge slot

4 Vic Rel
Vic Rel (Rel 64) is a relay cartridge for the CBM 64 and Vic 20 which has almost limitless applications, such as control of burglar alarms, garage doors, door locks, electric radiators, lamps, transmitters, model railways, etc.etc.

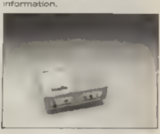
5 Disc-based games
Handic have a set of disc based games for the Commodore 64, all are great fun and superb colour graphics. At around 9.95 each. Why not treat yourself to a few?
Quantity discounts are available on request – dealer enquiries are also welcome

6 Diary 64
An ideal program for keeping track of telphone numbers, addresses, appointmants, schedules in fact the ideal time manager for all you sieve-heads

7 Stat 64
The statistical CBM cartridge which ads 19 new commands to your Basic language. An excellent programming aid for all you statisticians.

6 Graf 64
A CBM cartridge that turns solutions of equations into graphical analysis, what you might call a plotter-jotter.

9 Handic Auto Modem
This modem is the expanded version of the Videotex modem (see illustration). When used together with the Handic Teledata Base 64 this unit enables you to set up your own data base with information.

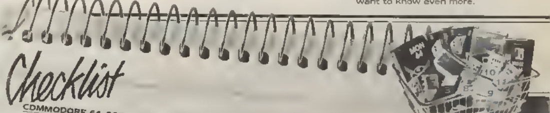


Videotex Split-Speed Modem
This Split-Speed modem is especially designed to connect with computers over the telephone lines, its facilities include auto-dialling, line control, etc. (BT approval applied for)

10 RS232
A standard V.24 (RS232) interface for connecting the CBM 64 to printers and other peripherals.

11 Bridge 64
A cartridge bridge game for the intelligentsia.

12 Forth 64
A Forth generation programming language for people who know what they are talking about, and want to know even more.



Checklist

		A	B
CDMMODORE 64–SOFTWARE			
CALC RESULT ADVANCED	99 00	☐	☐
CALC RESULT EASY	49 95	☐	☐
OIARY 64	19 95	☐	☐
BRIDGE 64	19 95	☐	☐
STAT 64	29 95	☐	☐
REL 64	34 95	☐	☐
MON 64	39.95	☐	☐
GRAF 64	29 95	☐	☐
FORTH 64	34 95	☐	☐
SSP (DISK BASED DIARY)	12.95	☐	☐
DISK BASED GAMES			
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SPACE TRAP	9.95	☐	☐
OISAC	9 95	☐	☐
Q-HOP	9.95	☐	☐
THE SHIP	9.95	☐	☐
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FOURTH SARCOPHAGUS	9.95	☐	☐
STELLAR CONFLICT	12 95	☐	☐
IMAGINATION	12.95	☐	☐
REAL ESTATE	12.95	☐	☐
CDMMODORE 64–HARDWARE			
VIC SWITCH	97 75	☐	☐
3M CABLE	4 95	☐	☐
6M CABLE	7 94	☐	☐
12M CABLE	9 89	☐	☐
SUPER BOX	67 87	☐	☐
RS232 INTERFACE	39.42	☐	☐
RESET SWITCH	5 98	☐	☐
APPLIED CALC RESULT	14.95	☐	☐
NEW HANDIC DATA BASE	62.00	☐	☐
IBM & COMPATIBLES			
CALC RESULT	316.25	☐	☐
WORD RESULT	316 25	☐	☐
CALC & WORD RESULT	534 75	☐	☐

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		A	B
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CALC RESULT 700 SERIES	258 75	☐	☐
WORD RESULT 700 SERIES	258.75	☐	☐
HARDWARE			
PET SWTICH MOTHER UNIT	172 50	☐	☐
DAUGHTER UNITS			
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–SK/05/8296 3 0 mtr	112 70	☐	☐
–SK/05/8296 7.5 mtr	112.70	☐	☐
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Raster bloster

Dear Tommy, **I have been using a Commodore 64 for some time and I am now learning to write in machine code. One thing that puzzles me because the Programmers Reference Guide does not explain it well, is splitting the screen. It tells you how to set the Raster Register and Interrupt Enable Register but not where the microprocessor jumps to when the Raster Register value equals the actual raster value. Please could you help?**

What happens is that, provided the relevant bit in the Interrupt Status Register (ISR) has been enabled, the computer generates an IRQ interrupt. This is the same interrupt that occurs for keyboard scan, sprite collisions etc. However, by examining the ISR you can tell which action triggered the interrupt. Since the computer has its own code for actioning IRQ, it means that you must 'divert' this interrupt to your own piece of machine code. The Vector for IRQ is held in addresses 788 and 789 (decimal).

Having changed the vector to jump to your own code you must check whether the IRQ was caused by a Raster Interrupt or not. If it was (bit 0 of the ISR is set to 1) then carry out the action required; at the end of the process, or if it was not a Raster Interrupt, jump to the normal IRQ vector address so that the computer can carry out its housekeeping correctly (the normal vector is $EA31). Do not forget to reset the relevant bit in the IRS (by writing a 1 to it) and set the Raster Scan Register with the next line you wish to be interrupted at.

There is a second method of checking for a Raster Interrupt, and that is to wait for the Raster Scan Register to reach a certain value and then carry out some action. This obviously involves a small m/c loop and means that you can't do anything else, but other interrupts will still be processed as normal (ie you can still input text directly, but not through BASIC). The following short program shows an example:

```
TOP     LDA $D012    ; RASTER SCAN
                       REGISTER
        BNE TOP      ; LOOP UNTIL
                       REGISTER IS 0
        LDA #6
        STA $D021    ; BLUE SCREEN
        LDA #3
        STA $D020    ; CYAN BORDER
        LDA #97
MIDPT CMP $D012      ; WAIT TILL
                       REGISTER IS
                       151
        BNE MIDPT
        LDA #5
        STA $D021    ; GREEN SCREEN
        LDA #4
        STA $D020    ; PURPLE
                       BORDER
        LDA $28D
        BEQ TOP      ; ESCAPE
                       OPTION
        RTS
```

This will give you a split screen and border. Activate with a SYS call to the start address and terminate by pressing any of the SHIFT, CTRL or CBM keys. If you are keen to investigate Raster interrupts further, a good book is Raeto West's *Programming the Commodore 64* which covers this and many other aspects of interrupts quite clearly.

Tommy is our resident know-all. Whether you've got a technical problem on the 64, 16 or Vic, Tommy's at the ready with pearls of wisdom, advice and information. Go on, write to him: Tommy's Tips, Commodore User, 30-32 Farringdon Lane, London EC1R 3AU.

Pokes for 16

Dear Tommy, **I was given a Commodore 16 computer for last Christmas, and I am very pleased with it.**

Until two months ago I was happy just learning Basic, then I wanted to go into converting programs but last week I got stuck on a few things, so please could you help me?

Could you please tell me what corresponding C16 Pokes are to the Commodore 64's 56334, 13312 to 13527, 53272, 12288, 53248 to 54271.

I would be very grateful if you could help me please.

Unfortunately, converting programs is a little more complicated then just changing the memory addresses. For example, **53248-54271** on the 64 are the Video Interface Controller addresses, which include all the Sprite position registers. Since there are no sprites on the C16 there are no equivalent addresses.

Likewise, **13312-13527** is part of the normal Basic RAM and its use depends very much on the program you are trying to convert. If it is being used to store sprite data, then again you cannot just alter the addresses and expect it to work, you would possibly have to use UDGs instead.

53272 is the Memory Control Register, which determines where the character set and screen memory are to be found. Any value Poked into this location would be totally meaningless on the C16 even in the equivalent address. The C16 and 64 are quite dissimilar machines in many respects and you must thoroughly understand any programs if you carry out successful conversions. In many cases the differences in such things as sound, screen memory, sprites etc, will mean that in cases where large numbers of Pokes are used, it may prove impractical, if not impossible, to do direct conversions.

Switch-on sequence

Dear Tommy, **Could you please clarify the sequences for switching on the Commodore 64 when connected to other peripheral devices.**

I have a 64, MPS-801 printer and 1541 disk drive, output is on a standard 12" TV. The instruction booklet for the printer is careful to illustrate the set-up procedure before switching the computer on, as for the disk drive instructions it is quite explicit that the drive must be switched on before the computer.

Now this is where the problem lies. EasyScript (disk) states computer on first before peripherals, this was confirmed when I contacted Commodore. *Input* magazine also states the computer must be switched on first otherwise damage can occur to the I/O chip.

Other reference books on printers and disk operations state the

Importance of turning all peripherals on before the computer. Who is right?

The great 'before or after' debate breaks out again! Taking it logically, whichever order you power devices up in, there are always going to be some devices which have signals being sent to them before they have got their own power. Whether this is more dangerous to the I/O chip on the computer or the peripherals is really irrelevant, under normal conditions no damage should be caused to any of the devices. What is important is that the devices are initialised correctly.

With a *single* disk drive and/or printer, the computer should always be turned on last; this will ensure correct operation. However, if you have *two* disk drives (ie 2 × 1541s) then the computer must be switched on **first**. Unless this is done the second drive will often be ignored; in some cases both drives will give a 'device not present' error. However, this does not apply in your case, so: Printer, disk, computer, TV would be my suggestion (it being the order I always turn mine on).

Vic graphics

***Dear Tommy*, I have had a Vic-20 for nearly two years now and I still do not know how to define graphics with more than one colour in one character. Please could you tell me how to do this with a 16K-expanded Vic as well as with a non-expanded Vic.**

Also, could you tell me of a book that gives a full list of machine-code commands for the Vic-20.

Multicolour code is determined by bit 4 of the relevant location in the Colour Register. This is located between 38400 and 38911 for the unexpanded or 3K Vic and 37888 to 38399 for the 16K Vic. Basically this means you add 8 to the normal colour code for each screen position you want to be multicolour. When in multicolour mode, the horizontal resolution is halved, hence normal characters will look quite odd. You must define your own characters to make sense of the multicolour mode since the colours are determined by 'pairs' of bits. The colours are then determined by the 'bit pairs' as follows:

00 – SCREEN COLOUR
10 – CHARACTER COLOUR
01 – BORDER COLOUR
11 – AUXILIARY COLOUR

The screen and border colours are changed by the same address as normal; the character colour by the colour register (not forgetting to add 8 to the value) and the auxiliary colour is bits 4-7 of address 36878 (the second volume register). When setting this last register use the following method: To set volume **POKE 36878, (PEEK (36878) AND 240) + 'volume level'**. To set Aux colour **POKE 36878, (PEEK(36878) AND 15) + 'colour value'*16** which will ensure that you do not upset the other function when changing colour or volume.

On the second query, I assume you mean the op codes and commands for the 6502, in which case almost any 6502 handbook will be suitable. However, the *Vic Programmer's Reference Manual* contains all the commands plus many other useful pieces of information. You might also try one of the machine-code tutors written specifically for the Vic, which will probably be of more use than just a list of the commands.

BBC lookalike

***Dear Tommy*, I have recently been using a BBC micro at School, I found that if typed "MODE 3" all the letters and symbols displayed became half a character wide. Please could you tell me how this could be achieved on my Commodore 64.**

Mode 3 on the BBC gives you an 80 column screen, useful for word processing etc. I regret to say that there is no such mode on the Commodore 64; 40 columns is your maximum. There are some 80 column boards available for the 64, but these are fairly expensive (around £60) and ideally you also need a monitor to display the text.

Luckily, though, two new products have just appeared (see Utilities feature, this issue). Both Tasword 64 and the Shado BBC emulator give the 64 an 80-column screen — and it's all done in software.

Video blues

***Dear Tommy*, I have had my Commodore 64 and C2N unit for a year and eight months now and until a couple of months ago, it all worked perfectly.**

Now, whenever I use my computer for long periods, things start to go wrong. Whenever the screen scrolls up, down, left or right some characters are coloured randomly black or red, making the letters impossible to read.

If this happens during a game the computer soon crashes and when I switch the computer off and turn it back on again characters still turn black and red. The computer is like this until the power supply cools down and I suspect this is the root of the problem.

It is unlikely that the power supply is the cause of the problem, although you are correct when you suggest overheating might be. It sounds very much as though the Vic II chip (that controls the video), is getting overheated and causing problems. It could also be another chip which is causing the problem, but which is affecting the Vic chip. Either way you have a marginal device somewhere in the computer which will probably fail completely eventually and needs to be replaced.

Since it is out of warranty it does not have to be repaired by Commodore, there are a number of other repair companies around which may well do a faster job. In any event you are likely to have to pay about £25-£35 for such a repair, but try to get an estimate from the company before committing yourself.

Vanishing code

***Dear Tommy*, I have been writing some simple programs in machine-code on my 64, but anything that I print on the screen just vanishes when the machine-code program is finished.**

Please could you tell me how to get back into a Basic program when the machine-code is finished.

When you say you want to get *back* to a Basic program, I assume you are running the machine-code routine using a SYS call from Basic. If that is the case then you must ensure that your machine code ends with **RTS** (ReTurn from Subroutine) Op code: 'Hex' 60. If it does not, then the computer will try to action the 'code' it finds in the next byte following your routine in memory. The results will be fairly catastrophic as you have discovered, since the contents of that address will be undefined.

I suggest if you are going to experiment with machine-code, you might try one of the training programs that are available, such as Commodore's *Assembler Tutor* or the excellent *Dr Watson Assembly Language Tutor for Beginners*, from Honeyfold.

Autorun

***Dear Tommy*, Please could you tell me of a quick and easy method of making my Commodore 64 run a Basic program immediately after loading it from a 1541 disk drive, without having to type in "RUN".**

There is no simple way of autorunning a Basic program from disk immediately after power-up, but there is a way once the first program is in and running. One feature of the Commodore machines is that they will automatically run a program that is LOADed from another program (as per the BBC 'chain' command). Thus you can have a very small loader program, that must be "RUN" in the normal way, but after that, any program called by the program that is running will be loaded in (over-writing the program in memory) and then run.

The problem is that the system variables are not reset and the end of program will be incorrectly set if the first (loader) program is shorter than any of the subsequent programs. This can be overcome by setting the 'end of program' pointers to the largest size needed. These are located in addresses 45 and 46. Just load the largest program in the chain and then PEEK these 2 addresses. Your initial loader program will then look something like this:

```
10 POKE 45,X:POKE 46,Y:CLR
20 PRINT“LOADING — PLEASE WAIT”
30 LOAD“<program name>”,8
40 END
```

Where X and Y are the values you obtained using the PEEKs. ☐

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DISC TO DISC: It is possible to make a self contained back up of disc based programs that will both **load at high speed** and **allow the rest of the disc to be used as normal**.

TAPE TO TAPE: Tape back ups can be made at turbo speed with just one tape deck.

In fact **"Freeze Frame" will FREEZE any program** that is memory resident, and allow you to make a back up of that program on tape or disc. The beauty being that the saved version can be a fast booting single file. The process is **completely automatic**, no knowledge of BASIC or machine language is required; just follow the prompts and the simple instructions for **100% success**.

"Freeze Frame" is a hardware device that plugs into the cartridge port of the 64. It does NOT simply the entire contents of memory, just the **working program**. Programs converted run **independently** of the hardware.

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WARNING: Don't be misled by other adverts, if you want to transfer turbo load programs to disc, software only utilities are **inadequate**. They suffer from a variety of drawbacks including poor success rate, awkward to use, greedy on disc space and overpricing.

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Customers with earlier versions may return them along with £9.95 for V3.0

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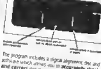

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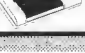

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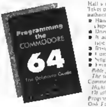

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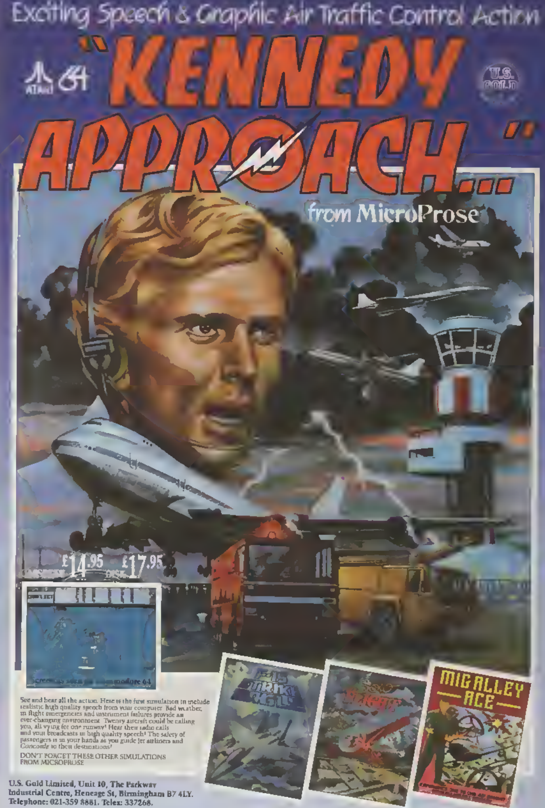
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